A UNIFIED ANALYSIS OF "DATIVE SHIFT" IN ENGLISH AND THE APPLICATIVE CONSTRUCTION IN CHICHEWA

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ABSTRACT

JUSTIN RILL: A Unified Analysis of "Dative Shift" in
English and the Applicative Construction in Chichewa
(under the direction of Randall Hendrick)

Many languages exhibit alternate syntactic realizations of ditransitive verbal construc-
tions. For example, English features both a prepositional construction (*Mary gave candy to the
children*) and a Double Object construction (*Mary gave the children candy*), a phenomenon known
as "Dative Shift" (Larson 1988). In Chichewa, the "applicative construction" is a similar syntactic
alternation (Baker 1988, Marantz 1993). The primary aim of this thesis is to present a unified
analysis of Dative Shift and the applicative construction for both of these typologically distinct lan-
guages.

The proposed unified analysis features an identical argument structure for both lan-
guages, as well as isomorphic morphosyntactic processes. It accounts for several asymmetries previ-
ously observed between benefactive and instrumental ditransitives in Chichewa. These asymmetries
serve as the basis for a corollary hypothesis about natural sub-classes within the class of "oblique"
arguments.

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I. Introduction

Human languages have properties: syntactic properties, phonological properties, morphological properties, *et cetera*. The surface realizations of these properties serve as the primary data for the linguist. Often, observed phenomena in a given set of languages will appear entirely unrelated; take for instance vowel harmony in Hungarian and the markedness of stop codas in Japanese. Given our current set of theoretical assumptions, these is no reason to treat these two as part of the same natural class (except perhaps within the very broad category 'phonological phenomena').

On the other hand, another set of phenomena observed in two (or more) separate languages may appear unrelated on the surface, until a theoretically well-founded, unified analysis can be argued for that dissipates the illusion of different-ness, and treats these phenomena as part of a much more constrained natural class than previously thought. If well-founded, this analysis is desirable because it affords a more constrained overall theory of human language behavior.

The aim of this thesis is to undertake such an analysis for what have been described as 'Dative Shift' in English (Larson 1988) and the applicative construction in Chichewa. In Section III, I will argue that these syntactic phenomena are essentially isomorphic, and result from an argument structure and from movement operations common to both languages.

Furthermore, from this proposed, unified analysis emerges a corollary hypothesis: that two sets of natural classes exist among non-Agent, non-Theme arguments, which stem from the attested asymmetries between Instrumental and Benefactive applicatives in Chichewa. In developing this line of argumentation, the analysis will build on some of the ideas in 'classic' Chichewa syntax papers by Baker (1988) and Marantz (1993), who were among the first to posit consistent, morphosyntactic asymmetries between these Instrumental and Benefactive ditransitive verbal constructions.

Modeling these subtle differences in the argument structure of ditransitive verbs fills an important gap in syntactic theory. However, if the analysis is on the right track, and it is compatible with several typologically different languages, it builds support for the idea that a specific and constrained argument structure is consistent cross-linguistically – and perhaps even universal.

1. Description of the domain under investigation

Verbs can be categorized based on the number of semantic arguments involved in the event. Intransitive verbs feature one argument, and they are typically subdivided into unergatives (ex.: *run*), where the sole argument is an Agent/Experiencer, and unaccusatives (ex.: *fall*), where the sole argument is a Theme (Radford 2004). Monotransitive verbs (ex.: *hit*) feature two arguments, which are typically the Agent/Experiencer and the Theme. There are even verbs with no semantic argument, such as the so-called weather verbs (ex.: *rain*).

The focus of this thesis is on ditransitive verbs – verbs which feature three arguments in the event. A typical example is the verb *give*, which features an Agent (the one who gives), a Theme (the thing being given) and a Goal (the one who receives the thing being given).

These ditransitive verbs are fascinating from a syntactic perspective for a number of reasons. For one thing, in some languages ditransitive verbs can alternatively be realized in two different configurations syntactically: either as the prepositional dative (1.a), or as the so-called 'Double Object construction' (1.b).

(1.a) *Mary gave candy to the children.*

(1.b) *Mary gave the children candy.*

These alternations have generated much discussion in the literature: are they equivalent in meaning? Do they have the same underlying structure? How are we to model them syntactically? In this thesis, I will argue in the affirmative for the first two questions, and answer the third question in Section III.

Additionally, even though verbs such as *give* are typically thought of as the 'archetypal'

ditransitive verb, there exist other three-argument constructions which feature a third semantic argument other than the Goal. Here are a few examples:

(2.a) *Mary put the book on the table.* (Locative)

(2.b) *Mary signed her name with a pen.* (Instrumental)

(2.c) *Mary threw the ball for the coach.* (Benefactive)

In this thesis, the umbrella term 'Oblique' will be used to refer to all of these 'third' (i.e. non-Agent, non-Theme) arguments as a whole. At first glance, it may seem counter-intuitive to lump the verbs in (2) in the same category as *give* in (1), since only the latter can be recast in the Double Object construction from the perspective of English syntax. Furthermore, some ditransitive verbs require an Oblique argument (1, 2.a) while for others it is optional (2.b, 2.c).[1] However, in some languages, *all* ditransitive constructions consistently exhibit the alternative syntactic construction isomorphic to (1.a-1.b) regardless of the exact nature of the Oblique argument, and whether the Oblique argument is required. The following data[2] is from Chichewa (or Chewa), a Bantu language spoken in Malawi and other neighboring countries:

(3.a) *Mavuto anapereka chitseko kwa mfumu*
     Mavuto gave   door   to   chief

(3.b) *Mavuto anaperekera mfumu chitseko* (Goal)
     Mavuto gave+**APPL** chief   door
     'Mavuto gave the door to the chief.'

(4.a) *Mavuto analuka mikeka pa mchenga*
     Mavuto weave   mats   on sand

(4.b) *Mavuto analukira   pa mchenga mikeka* (Locative)
     Mavuto weave+**APPL** on sand   mats
     'Mavuto wove the mats on the beach.'

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[1]It should be noted that *give* in (1) and *put* in (2.a) differ from *sign* in (2.b) and *throw* in (2.c) in that the former are required to feature three arguments, while the latter are not (**Mary put the book* vs. *Mary signed her name*). I will assume that such valency requirements are lexically-indexed, and do not impact the analysis in a significant way. Furthermore, I will also assume that grammars can optionally increase the valency of verbs with (for example) Instrumental or Benefactive arguments, as in (2.b) and (2.c), respectively. In sum, whether a ditransitive verb has a natural valency of three or has undergone optional valency augmentation will not make a difference in the syntax under this analysis.

[2]Examples (3.a), (3.b), (5.b), (6.b) are from Baker (1988). (4.b) is from Alsina and Mchombo (1990). (4.a), (4.b) and (4.c) are from a Chichewa consultant I have been in contact with during the course of my research.

(5.a) *Mavuto anaumba mitsuko ndi mpeni*
Mavuto molded waterpots with knife

(5.b) *Mavuto anaumbira mpeni mitsuko*   (Instrumental)
Mavuto molded+**APPL** chief door

'Mavuto molded the waterpots with the knife.'

(6.a) *Mavuto anaumba mitsuko kwa mfumu*
Mavuto molded waterpots for chief

(6.b) *Mavuto anaumbira mfumu mitsuko*   (Benefactive)
Mavuto molded+**APPL** chief waterpots

'Mavuto molded the waterpots for the chief.'

The parallels between the English alternation in (1) and the Chichewa alternations in (3-6) are striking. Both feature prepositional constructions with the word order AGENT-V-THEME-P-OBLIQUE. Each example pair also features a 'Double Object construction' with the word order AGENT-V-OBLIQUE-THEME.[3] In English, the Double Object construction does not overtly require additional verbal morphology; however, in Chichewa the equivalent construction is always marked by the so-called 'applicative' suffix *-er/-ir*.[4] This suffix will figure prominently in the analysis in Section III.

This broad class of ditransitive constructions – both prepositional and Double Object – are the object of inquiry of this thesis. In Section III, a single, unified analysis will be presented that covers both the English and Chichewa data, and posits further subdivisions within Obliques themselves. Before that, however, the literature review in Section II will go over previous works of note by Baker, Marantz and Larson. Section II will thus set the stage for the analysis in Section III, highlighting both the shared theoretical assumptions and the key departures from these 'classic' syntax papers.

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[3]The locative 'Double Object' construction in (4.b) irregularly features the word order AGENT-V-P-OBLIQUE-THEME. See Section IV.2.

[4]The suffix is realized as *-er* following a mid vowel, and *-ir* elsewhere, i.e. before a high or low vowel.
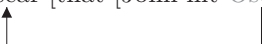
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II. Literature Review

1. Baker (1988)

The subject of Baker (1988) is what he calls the 'applicative' construction in Chichewa, which we are here likening to the Double Object construction more generally. Initially, the Chichewa ditransitive sentences (3-6) in Section I above seem like they would warrant the same syntactic analysis 'across the board'. However, Baker observes that some puzzling asymmetries exist between different kinds of applicative constructions, depending on the exact nature of the ditransitive verb's Oblique argument. Focusing in on Benefactive and Instrumental applicative constructions, Baker identifies two major asymmetries: one concerning relativization, and one concerning Object Prefixation.

In Baker's paper, relativization is taken to mean the Wh-movement of an argument NP out of its original IP and into a higher IP above it. An English example is schematized in (1).

(1) [It was Oscar [that [John hit Oscar$]_{IP}]_{CP}]_{IP}$

Baker observes that, in comparison to Instrumental ditransitives, Benefactive ditransitives are more constrained. Indeed, in Benefactive constructions, the Benefactive NP may *not* be relativized, while the Theme NP can do so (2.a-2.b); in contrast, in Instrumental constructions, both the Instrumental NP and the Theme NP may be relativized (3.a-3.b).[5]

(2.a) * *Iyi   ndiyo mfumu imene ndikuganiza kuti Mavuto anaumbira mitsuko*
       This is   chief   whom think   that Mavuto mold-APPL waterpots
       'This is the chief whom I think Mavuto molded the waterpots for.'

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[5]The relativization data (2-3) is from Baker (1988), as is the Object Prefixation data (4-5).

(2.b) *Iyi   ndi mitsuko   imene ndikuganiza kuti Mavuto anaumbira mfumu*
These are waterpots which think   that Mavuto mold-APPL chief

   'These are the waterpots which I think Mavuto molded for the chief.'

(3.a) *Uwu ndi mpeni umene ndikuganiza kuti Mavuto anaumbira mitsuko*
This is   knife   which think   that Mavuto mold-APPL waterpots

   'This is the knife which I think Mavuto molded the waterpots with.'

(3.b) *Iyi   ndi mitsuko   imene ndikuganiza kuti Mavuto anaumbira mpeni*
These are waterpots which think   that Mavuto mold-APPL knife

   'These are the waterpots which I think Mavuto molded with the knife.'

The data above indicates that some difference must exist between Benefactive and Instrumental ditransitives in Chichewa, despite superficial similarities. The other asymmetry documented by Baker concerns Object Prefixation (OP), and it too echoes the need for a differential treatment of Benefactive and Instrumental ditransitives.

OP is a morphosyntactic process of Bantu languages by which either the Theme NP or the Oblique NP can be realized as a prefix on the main verb. As an added wrinkle, the prefixed NP can optionally be realized at the end of the sentence (in addition to the prefix). The asymmetry observed by Baker, however, is that in Benefactive ditransitives, either the Benefactive NP may be prefixed, and not the Theme NP (4.a-4.b); in Instrumental ditransitives, both the Instrumental NP and the Theme NP may be prefixed (5.a-5.b).

(4.a) *Mavuto ana**wa**$_i$umbira mitsuko   (**ana**$_i$)*
Mavuto OP-mold-APPL waterpots children

   'Mavuto molded the waterpots for them (the children).'

(4.b) * *Mavuto ana**i**$_i$umbira   ana   (**mitsuko**$_i$)*
Mavuto OP-mold-APPL children (waterpots)

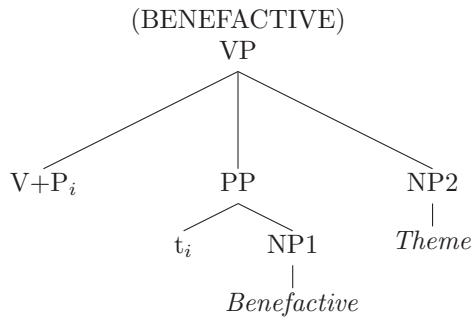   'Mavuto molded them (the waterpots) for the children.'

(5.a) *Mavuto ana**u**$_i$umbira   mitsuko   (**mpeni**$_i$)*
        Mavuto OP-mold-APPL waterpots knife

'Mavuto molded the waterpots with it (the knife).'

(5.b) *Mavuto ana**i**$_i$umbira   mpeni (**mitsuko**$_i$)*
        Mavuto OP-mold-APPL knife   (waterpots)

'Mavuto molded them (the waterpots) with the knife.'

Generally-speaking, the observation to be gleaned from both asymmetries is that Instrumental ditransitives are less constrained than Benefactive ditransitives in terms of the syntactic operations that they can undergo. Furthermore, these asymmetries illustrate that Chichewa Instrumental and Benefactive constructions cannot be treated the same in a given analysis – an explanation must be offered to account for (2-3) and (4-5).[6]

Baker proposes to account for his asymmetries with differences in Theta-marking between Instrumental and Benefactive NPs. According to him, Benefactive NPs depend on a preposition to obtain their Theta-role, while Instrumental NPs obtain theirs directly from the verb.

(6.a)   (6.b)

     (BENEFACTIVE)   (INSTRUMENTAL)
        VP   VP

V+P$_i$ PP   NP2   V+P   NP1   NP2

     t$_i$ NP1   *Theme*   *Instrumental*   *Theme*
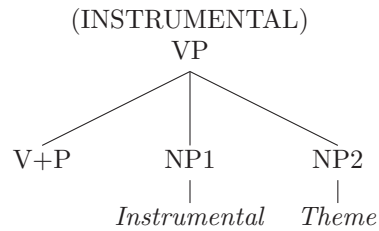
        Benefactive

Both these trees, taken directly from Baker (1988), illustrate applicative (and therefore Double Object) constructions. In (6.a), the preposition has originally been merged as a sister to the Benefactive NP, and from that position it assigns the Benefactive NP its Theta-role. Since it is an applicative construction, the preposition has moved to the verbal root above as the suffix *-er/-ir*; the trace nevertheless assigns the Benefactive NP its Theta-role. The verb itself then assigns the Theme NP its Theta-role.

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[6]Baker notes in footnote 3 p. 354 that Goal ditransitives pattern like Benefactive ones in these matters, and thus, for the purposes of our analysis, the Benefactive and Goal will be interchangeable.

In (6.b), the verb essentially has 'two objects', and assigns Theta-roles to the Instrumental and Theme NPs. Baker clarifies that the Instrumental preposition is realized as a result of Case-marking requirements, and not Theta-marking ones – along the same lines as the English preposition *of* inserted at S-structure as a realization of Genitive case in an NP such as *the destruction of Rome.*

Presumably, even this sort of 'empty' preposition – one which does not itself assign Theta-roles – can still undergo movement to the verbal root much like a 'true' preposition which does assign them, accounting for why the applicative suffix *-er/-ir* is still attested in Instrumental ditransitives.

Baker follows up his take on Theta-marking in Chichewa ditransitives with a standard *Lectures on Government and Binding (LGB)* analysis of Case-marking. According to *LGB*, verbs assign structural case, by default, and to only one NP (Chomsky 1993). In a situation where the verb needs to Case-mark more than one NP, it can also assign 'inherent case'. By definition, inherent case is assigned at D-structure, and the process must feature a parallel Theta-marking relationship. On the other hand, structural case is assigned at S-structure, and crucially does *not* require a parallel Theta-marking relationship.

By appealing to these features of *LGB*, Baker is able to account for the Object Prefixation asymmetries in Chichewa. Under his analysis, in Benefactive ditransitives, the preposition that governs the Benefactive NP at D-structure has moved to the head of VP, and thus the remaining trace cannot assign Case to the Benefactive NP. Therefore, according to Baker, the Benefactive NP must receive the verb's structural Case. As a corollary, in this view Benefactive ditransitives will only be possible if the Theme NP receives the verb's inherent Case.

In contrast, in Instrumental ditransitives, both the Instrumental and Theme NPs meet the requirements for structural case. As a result, two Case-marking configurations are allowed: either the Instrumental NP receives structural case and the Theme NP, inherent case – or the other way around.

Following the *LGB* literature, by definition the NP with structural case must be closest

to the verb – this is known as the adjacency requirement (Stowell 1981). Thus Baker is able to account for the OP asymmetry, interpreting the object prefix as a manifestation of the structurally Case-marked NP (since, as a prefix, it is 'closest' to the root verb). From there, it follows that, in Benefactive constructions, only Benefactive NPs can receive structural case, and therefore only they can undergo Object Prefixation.

On the other hand, in Baker's view, in Instrumental constructions, both the Theme and Instrumental NP are governed by the verb at D-structure, thus either NP can receive structural case-marking, and therefore either NP is a legitimate candidate for the prefixation process. In the end, in Baker's account Instrumental ditransitives are more flexible in that two possible Case-marking configurations exist: one in which the Instrumental NP receives structural Case, and the Theme NP receives inherent Case; and vice-versa.

Strictly-speaking, Baker's proposal conforms to UTAH (Baker 1997) in that a given argument consistently appears in the same syntactic position. However, it does not conform to a more highly-constrained, exclusive version of UTAH where there is a one-to-one relationship between a given Theta-role and a corresponding syntactic position: in his account of Instrumental ditransitives, Instrumental and Theme NPs are both complements of VP.

Baker continues to build on his account of the OP asymmetries to sort out the relativization facts in (2-3). Since, in Benefactive constructions, there is a trace left by the preposition in it's originally-merged position (before it moves to the verbal root as the applicative suffix), but not in Instrumental constructions, Baker posits a "Nonoblique Trace Filter" which prohibits the extraction of an NP governed by an empty category.

(7) Nonoblique Trace Filter:

*$[\text{Ob}_i \; ... \; \text{V} + \text{X}_j \; ... \; [_X P \; \text{t}_j \; \text{t}_i] \; ... \;]$ at S-structure, where X is [-V] (N or P).

As written, the Filter in question says nothing about restricting the extraction of Theme NPs, and thus this specific type of extraction is allowed in all ditransitive constructions.

* * *

Our own analysis in Section III will build on Baker's proposal in many important ways, but it will also seek to improve upon other areas of his analysis. The takeaway point of Baker's paper, which will also serve as a driving question directing our own analysis, is the overall idea that **some fundamental difference exists between** two superficially similar Oblique arguments, **the Benefactive and the Instrumental**. Like Baker, this difference will be represented directly in the argument structure of ditransitive verbs.

Specifically, we will endorse Baker's intuition that, of the two Obliques in question, **the Instrumental enjoys a 'closer' syntactic relationship to the root verb**. Baker models this closer relationship by having the verb directly Theta-mark Instrumental NPs, while Benefactive NPs receive their Theta-marking from a preposition. We will absorb this mechanism of Theta-marking in our analysis.

However, the particulars of our argument structure will look different from Baker's schemata in (6); for example, **modern syntactic analysis does not generally allow ternary branching**, and our proposal will conform to this hypothesis. Also, **Baker's proposal is less constrained in terms of where a given argument is merged**. For example, in (6.b), the linear order of the Theme and Instrumental NPs is variable because his proposal does not endorse a strictly exclusive version of UTAH, as explained above. This is something we will avoid in our own proposal, and as such it will feature a one-to-one relationship between specific arguments and their originally merged syntactic position.

Additionally, **Baker makes extensive use of Theta-marking and Case-marking** in explaining the attested asymmetries. Our own analysis will be more parsimonious in that, generally-speaking, only Theta-theory will be appealed to. Case-theory will be relegated to a more secondary role. Finally, we will endorse Baker's view that **the applicative suffix *-er/-ir* is a reflex of a preposition**, and extend it to be compatible with the eventual analysis of English 'Dative Shift': a parallel relationship will be proposed between prepositions and an applicative suffix in English. A summary of the shared theoretical assumptions with – and departures from – Baker (1988) is provided below.

(8) Summary of Baker (1988) *vis-à-vis* this proposal

Baker (1988)	this proposal
a fundamental difference exists between Benefactive and Instrumental ditransitives	
Instrumental NPs enjoy a 'closer' syntactic relationship to the root verb - Instrumental NPs are Theta-marked by V - Benefactive NPs are Theta-marked by P	
treats the applicative suffix *-er/-ir* as a reflex of P	
features binary and ternary branching	features binary branching *only*
less contrained argument structure	one-to-one relationship between Theta-role and syntactic position
appeals to Case-Theory and Theta-theory	appeals principally to Theta-theory

2. Marantz (1993)

Marantz (1993)'s work is similar to Baker's in that it also attempts to explain the same attested asymmetries in Chichewa, but from a slightly different angle. Similar to Baker, Marantz argues that, conceptually, Instrumental arguments are 'closer' to the semantic event constructed by the root verb and the Theme – note the parallel with Baker's hypothesis that root verbs directly Theta-mark Instrumental arguments. On the other hand, Marantz believes that Benefactive arguments are 'further' in a sense from that core semantic event. This, too, parallels Baker's notion that the verb does not directly Theta-mark Benefactive arguments, and that intermediate syntactic units (prepositions) must do so instead.

Marantz models this difference in 'semantic' distance directly into his proposed argu-

ment structure. Benefactive applicative sentences are modeled as in (9).

(9)

```
                        VP
                 ┌──────┴──────┐
                NP             V'
                │        ┌──────┴──────┐
           Benefactive   V             VP
                         │       ┌──────┴──────┐
                        APPL    NP             V'
                                │          ┌────┴──┐
                             Theme         V
                                           │
                                        ROOT V
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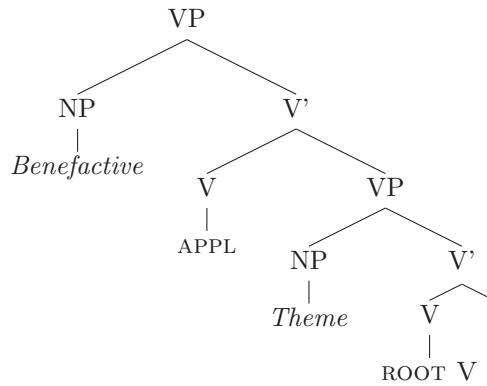
For Marantz, Benefactive NPs are consistently merged in the Specifier of the outermost VP to reflect their conceptual distance from the 'core' event in the inner VP. Note that the applicative suffix is taken to be the verb-like head of the outer VP, which is gathered up by the ascending verbal root during the course of derivation.

On the other hand, Instrumental NPs are not bound by the same restrictions. According to Marantz, their status as 'inside' the core semantic event allows them greater flexibility in being merged in the specifier of either VP (interchangeably with th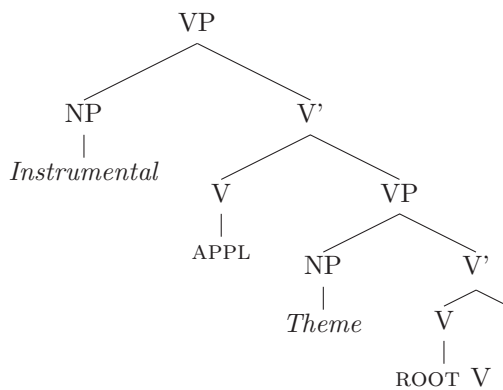e Theme NP). Note the similarities with Baker, in that again in Instrumental ditransitives, certain syntactic positions are not exclusive to specific types of arguments. The two possible configurations of Instrumentals according to Marantz are represented in (10).

(10.a)

```
                      VP
               ┌──────┴──────┐
              NP             V'
              │        ┌──────┴──────┐
         Instrumental  V             VP
                       │       ┌──────┴──────┐
                      APPL    NP             V'
                              │          ┌────┴──┐
                           Theme         V
                                         │
                                      ROOT V
```

(10.b)

```
                      VP
               ┌──────┴──────┐
              NP             V'
              │        ┌──────┴──────┐
            Theme      V             VP
                       │       ┌──────┴──────┐
                      APPL    NP             V'
                              │          ┌────┴──┐
                         Instrumental    V
                                         │
                                      ROOT V
```

12
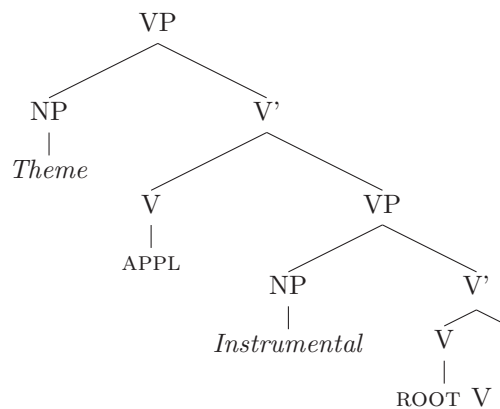
Like for Baker, the applicative suffix is still realized in Instrumental constructions to satisfy Case-marking requirements. More importantly, this flexibility in argument structure allows Marantz to account for the observed asymmetry in word order observed in the literature: Instrumental applicatives are grammatical in two possible word orders, V-INSTR-THEME and V-THEME-INSTR, while in Benefactive applicatives, only V-BENE-THEME is acceptable.[7]

(11.a)   *Mavuto anaumbira   mpeni mitsuko*
         Mavuto molded+APPL knife   waterpots

(11.b)   *Mavuto anaumbira   mitsuko   mpeni*
         Mavuto molded+APPL waterpots knife
         'Mavuto molded the waterpots with the knife.'

(12.a)   *Mavuto anaumbira   mfumu mitsuko*
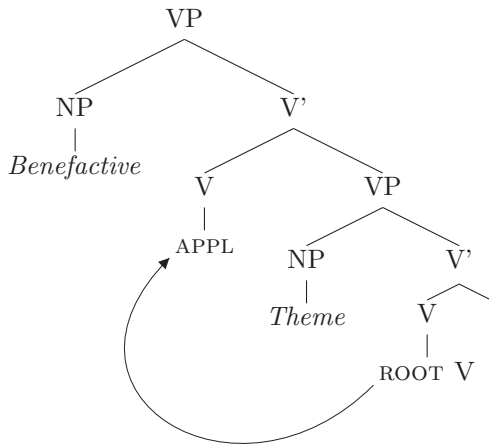   Mavuto molded+APPL chief   waterpots

(12.b) * *Mavuto anaumbira   mitsuko   mfumu*
         Mavuto molded+APPL waterpots chief
         'Mavuto molded the waterpots for the chief.'

To account for the Object Prefixation asymmetries in (4-5) above, Marantz posits that Chichewa 'Merges' or 'Incorporates' the applicative suffix and verbal root, in such a way that collapses the VP-within-a-VP argument structure and effectively makes the Theme NP a Complement governed by the verb+APPL in the head of the higher VP. Marantz's assumption is that only Specifiers are syntactically 'active' positions from which extraction can occur. When the Theme NP is effectively reanalyzed as a Complement, it loses its ability to undergo Object Prefixation, which is taken to be a Wh-movement to the head of the highest VP or IP.

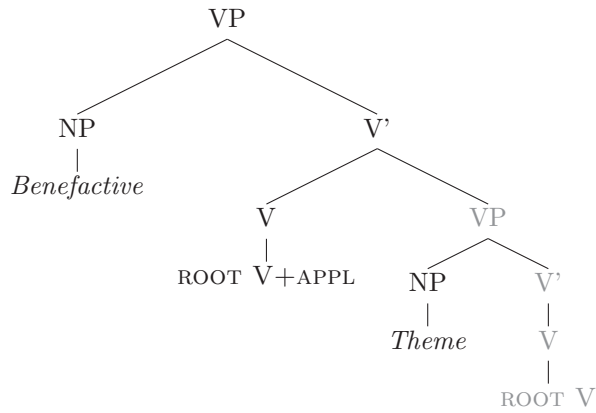[7]Baker (1988)'s tree structures in (6) and Case-marking analysis also account for this asymmetry. In Benefactive ditransitives, the Benefactive NP always receives structural case and thus will always be 'closest' to the verb as per the adjacency requirement. Meanwhile, in Instrumental ditransitives, either the Theme NP or the Instrumental NP can receive structural case, thus explaining the two attested word orders in (11).

(13.a)

VP
NP — V'
Benefactive
V — VP
APPL
NP — V'
Theme
V
ROOT V

(13.b)

VP
NP — V'
Benefactive
V — VP
ROOT V+APPL
NP — V'
Theme
V
ROOT V

According to Marantz's argument structure in (9), in Benefactive constructions the Theme NP will always be merged in the lower Spec, and thus will always be reanalyzed as a Complement when the verbal root and the applicative suffix Merge/Incorporate (this process is illustrated in 13). On the other hand, in Instrumental constructions, both the Instrumental and Theme NP may still be free to undergo Wh-movement out of the highest, still 'active' Spec following Merger/Incorporation (given the two possible starting configurations in 10).

(14.a)

VP
NP — V'
Benefactive
V — VP
APPL
NP — V'
Theme
V
ROOT V

(14.b)

VP
NP — V'
Benefactive
V — VP
ROOT V+APPL
NP — V'
Theme
V
t
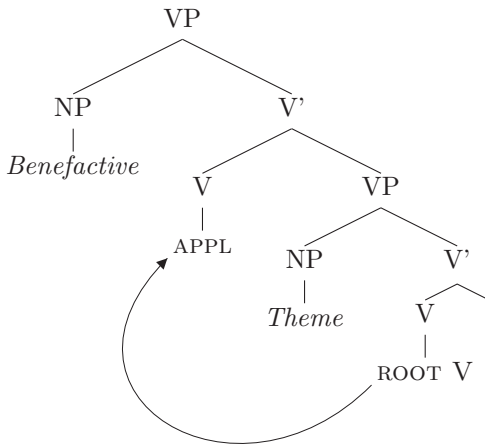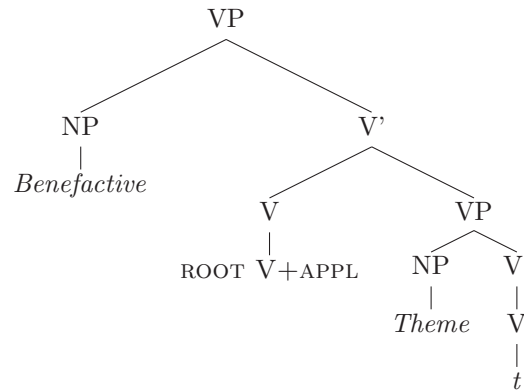
Marantz contrasts Merge/Incorporate (M/I) languages such as Chichewa with Raising/Adjunction (R/A) languages such as Chaga. In the latter, Marantz posits that when the verbal stem ascends to the head of the higher VP, no 'collapsing' takes place as in M/I. A trace remains in the root's originally merged position, and crucially it still governs the NP in the Specifier position,

ensuring that the lower VP retains it's original shape. As such, the Theme NP in Benefactive constructions will remain in the syntactically 'active' Specifier position, and thus will be able to undergo Object Prefixation as normal. The trees in (14) illustrate Raising/Adjunction (in a Benefactive construction) according to Marantz; in (15), we have sentences of Chaga, another Bantu language, isomorphic to the sentences of Chichewa in (4). Since Chaga is an R/A language, Marantz argues, the Chaga analog to (4.b) in (15.b) is grammatical because the Theme NP is still able to move out of a syntactically 'active' Specifier position.

(15.a) *Naimlyiia   kelya*   (Benefactive NP is prefixed)
       OP-eat-APPL food

'He is eating food for her (the wife).'

(15.b) *Naikilyiia   kelya*   (Theme NP is prefixed)
       OP-eat-APPL wife

'He is eating it (the food) for the wife.'

Presumably, Marantz would like to piggyback off of his M/I vs R/A hypothesis to also explain the relativization asymmetries in (2-3). Unfortunately, an explanation isn't forthcoming; Marantz leaves this problem as a "not yet explained" mystery. In his defense, however, the focus of his paper is less narrowly on accounting for the asymmetries in Chichewa proper, but more on the fundamental dichotomy between M/I languages like Chichewa and R/A languages like Chaga.

<p style="text-align:center">*   *   *</p>

Following Baker, Marantz has also embraced the idea that **a fundamental difference exists between Benefactive and Instrumental ditransitives**. Furthermore, Marantz believes that **Instrumental NPs enjoy a 'closer' semantic relationship to the root verb**. He envisions a two-tiered, dual-VP argument structure where structural distance from the root verb mirrors the conceptual distance from the core semantic event. Thus, Instrumental (and Theme) NPs are eligible to be merged in the verbal root's 'inner' VP, while Benefactive NPs must be merged outside of that same 'inner' VP. This fundamental dichotomy is one we will adapt, with some adjustments, to our

own analysis.

Indeed, some of the particulars of Marantz's analysis will differ from that presented in Section III. For example, Marantz envisions a theory where **only the Specifier position is a valid one for an argument NP**; in our proposal, Specifiers, Complements, and even Adjuncts are legitimate positions for arguments NPs to be merged in.

(16)

```
                        IP
                      /    \
                    NP      I'
                   /\      /   \
                  Horace  I      VP
                          |     /   \
                        +PST  NP      V'
                             /\      /   \
                     the porcupine  V     PP
                                    |    /\
                                  give  to Elmer
```
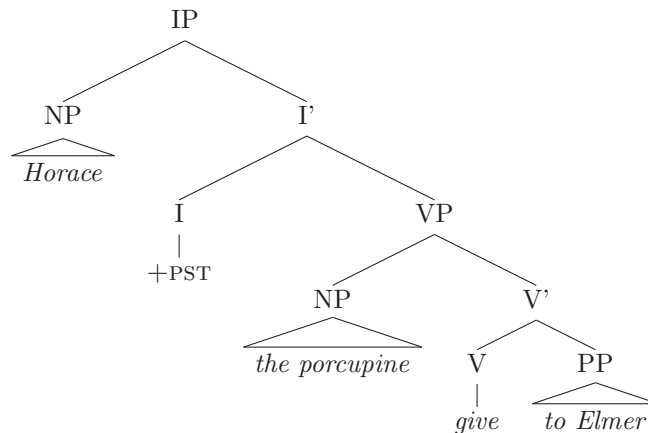
Like Baker, **Marantz's proposal is less constrained** in that a one-to-one relationship doesn't exist between certain syntactic positions and specific Theta-roles. Note how, in (10), Instrumental ditransitives can appear in two different configurations; or, in prepositional constructions, the Benefactive/Goal unexpectedly finds itself in the complement of the 'inner' VP. The latter is represented in (16) above. Once again, in our own proposal, a one-to-one relationship will ensure that specific arguments are consistently merged in the same syntactic position before movement (and in both Double Object and prepositional constructions).

Additionally, for the purposes of his paper, Marantz has posited a **dichotomy of M/I vs R/A**. In our analysis, this extra machinery will not be necessary to explaining puzzles such as the word order asymmetry in (11-12). Finally, Marantz proposes that **the APPL suffix is the head of its own VP-like phrase**. This is an idea that we, too, will adapt in our analysis in Section III.

(17) Summary of Marantz (1993) *vis-à-vis* this proposal

Marantz (1993)	this proposal
a fundamental difference exists between Benefactive and Instrumental ditransitives	
Instrumental NPs enjoy a 'closer' semantic relationship to the root verb - Instrumental NPs can be merged inside the 'core' VP - Benefactive NPs cannot	
the APPL suffix is the head of a VP-like phrase	
argument NPs can only be merged in the Specifier position	arguments NPs can be merged as Specifiers, Complements or Adjuncts
less contrained argument structure	one-to-one relationship between Theta-role and syntactic position
M/I vs R/A as a core mechanic	does not appeal to M/I vs R/A

3. Larson (1988)

Larson (1988) was one of the first forays into dative ditransitive constructions in English. Dubbed the "*locus classicus*" of Double Object alternations by Harley (2002), Larson's seminal paper is important to this thesis first and foremost because it is a derivational account. Unlike Marantz – but like Baker – Larson crucially argues that a sentence in the 'Double Object' construction such as (18.b) is syntactically derived from the prepositional construction in (18.a).

(18.a) *Mary gave candy to the children.*

(18.b) *Mary gave the children candy.*

This derivational standpoint will serve as one of the theoretical foundations of this the-

sis. The assumption is that both sentences in (18) feature the same semantic roles participating in the same semantic event[8], and as such this ought to be reflected in an identical underlying syntactic structure.

He begins by discussing some asymmetries observed in Barss and Lasnik (1986) regarding ditransitive constructions. Barss and Lasnik noted that, in both the prepositional dative (19.a-19.b) and the Double Object construction (19.c-19.d), the second NP (or PP) is in the "domain" of the first NP:

(19.a) *Mary gave his$_i$ paycheque to every worker$_i$.

(19.b) Mary gave every worker$_i$ his$_i$ paycheque.

(19.c) Mary handed every book$_i$ to its$_i$ rightful owner.

(19.d) *Mary handed its$_i$ rightful owner every book$_i$.

In light of these robust asymmetries, which are shown to not only cover quantifier binding as above, but also 'weak crossover' effects and negative polarity items, Larson calls for "a rejection of the two most frequently assumed structures for double objects":

(20.a)

```
         VP
       / | \
      V  NP1 NP2
```

(20.b)

```
         VP
        /  \
       V'    NP2
      / \
     V   NP1
```
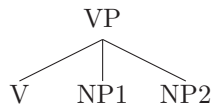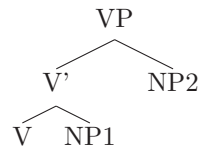
The structure in (20.b) is rejected because NP1 does not C-command NP2; rather, NP2 C-commands NP1, which is the inverse or what the binding facts in (19) require. The ternary branching structure (20.a) is rejected specifically because NP1 does not asymmetrically C-command NP2 – a simple non-asymmetrical C-command relationship does not adequately cover the facts observed by Barss and Lasnik.

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[8]This assumption is not necessarily widely accepted. It has been suggested by Gropen *et al* (1989), Green (1974) and others that the prepositional dative construction emphasizes motion of the Theme to the Goal, while the double object construction evokes transfer of possession of the Theme from the Agent to the Goal. In this analysis, we will chalk up these intuitions to pragmatics, and still consider both types of sentences to have the 'same' meaning in a broad sense. It is a similar kind of reasoning as in, for example, the topicalization of a syntactic constituent; we widely consider *I like Mary* and *Mary, I like* to have the same meaning, broadly speaking, and we consider both sentences to be derived from the same underlying syntactic structure, despite minor differences in pragmatics.

The crux of Larson's analysis is that English 'Dative Shift' involves the derivation of (18.b) from (18.a), and furthermore that it is syntactically isomorphic to Chomsky's account of the passive in *LGB*. Working within that framework, Larson essentially proposes a light vP shell (which he nevertheless calls VP), and chooses the 'prepositional dative' as the more basic, underived form.

(21.a)

```
          VP
          |
          V'
        /    \
       V       VP
            /      \
          NP        V'
         /\        /   \
      a letter    V     PP
                  |     /\
                send  to Mary
```

(21.b)

```
          VP
          |
          V'
        /    \
       V       VP
       |     /    \
     send  NP       V'
          /\       /   \
       a letter   V     PP
                  |     /\
                send  to Mary
```
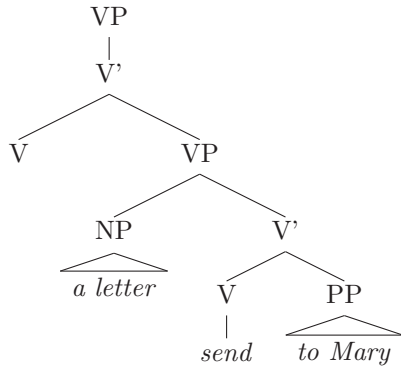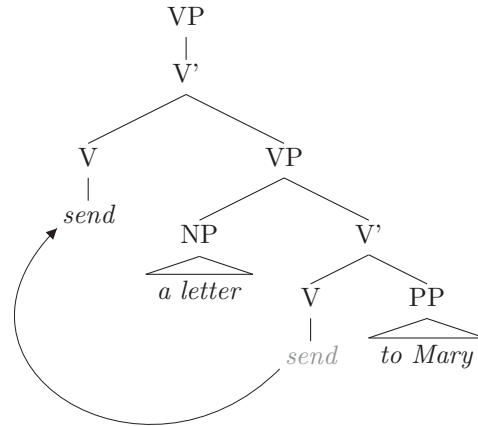
Thus, in Larson's account, the derivation of the sentence *John sent a letter to Mary* simply involves Head-movement of the root verb from the lower V head to the higher one (the Agent *John* is presumably directly merged in Spec-IP). The core argument structure is represented in (21) above.

Larson justifies his chosen basic structure by pointing out that NP+PP do seem to form a constituent according to the coordination test.

(22)

VP
|
V'

V
|
send

VP

VP
and
VP

NP
a letter
V'

V
send
PP
to Mary

NP
a book
V'

V
send
PP
to Sue
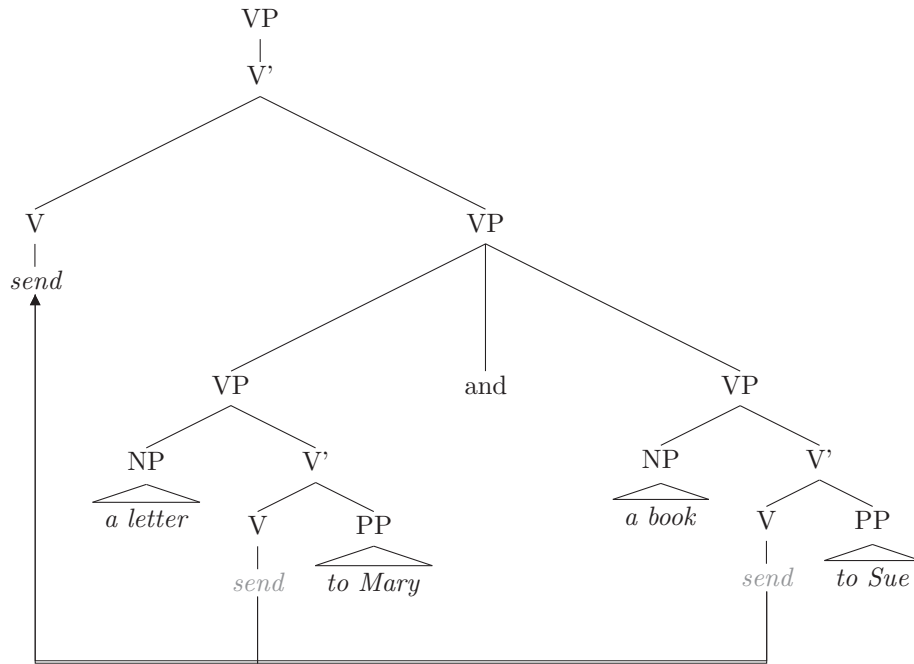
Larson's basic prepositional dative's structure is also justified, in his mind, by a reimagining the phenomenon known as 'Heavy NP Shift' as 'Light Predicate raising', whereby the V head and its complement (i.e. V') undergo Head-movement to the head of the upper VP 'shell'. Thus Larson proposes that *I gave to John everything that he demanded* is derived from *I gave everything that he demanded to John* as follows:

(23.a)

VP
|
V'

V

VP

NP
everything that he demanded
V'

V
give
PP
to John

(23.b)

VP
|
V'

V
|
give to John

VP

NP
everything that he demanded
V'

V
give
PP
to John

20
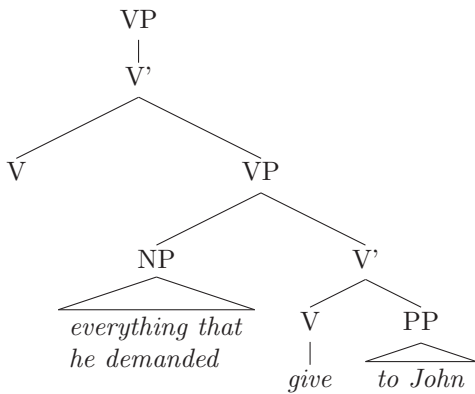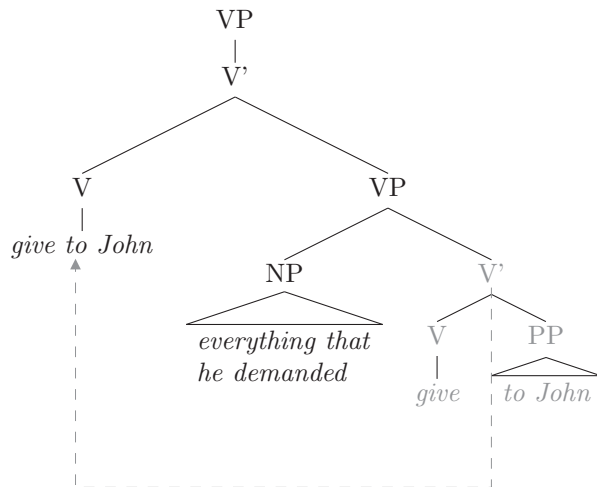
This type of solution stood in contrast with other attempts to have the 'heavy' NP (i.e. *everything that he demanded*) move to the 'right' in the tree. Furthermore, as we will see in Section III, this idea of Reanalysing V' as V is one we will make great use of in our own analysis of English and Chichewa ditransitives.

From the basic prepositional construction sketched out in (21.a), Larson derives the Double Object construction much like Chomsky's treatment of passives in *LGB*.

(24.a)
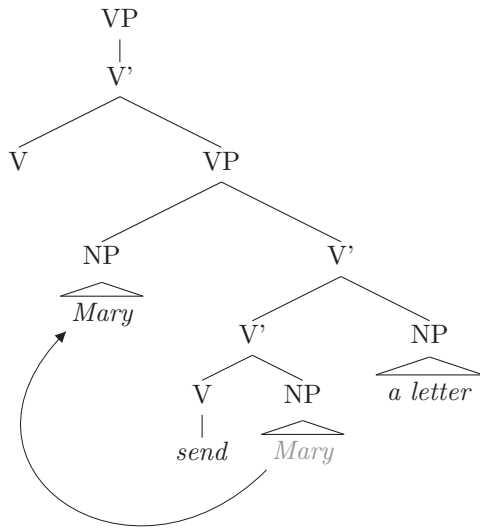
(24.b)
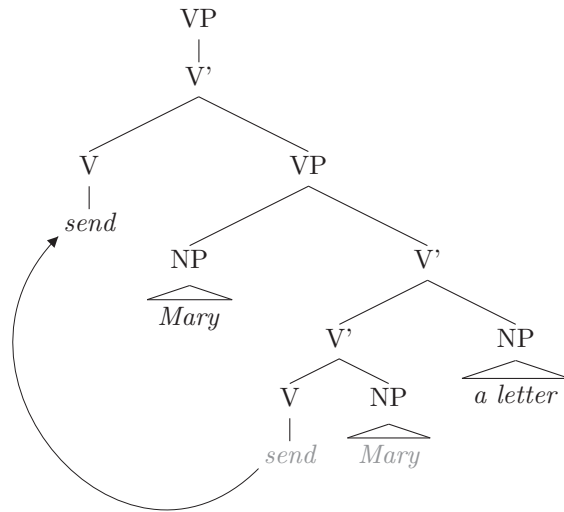
Larson's account of the double object construction is English is as follows. In (24.a), the "VP subject" (i.e. the Theme NP *a letter*) is merged as a right-adjunct in VP. Following Burzio's generalization, V *send* can no longer assign Case to its complement, and so NP *Mary* must move to the Spec of VP to receive it, much like Chomsky's passive in *LGB*. Finally, in (24.b) the V head then undergoes Head-movement up the tree as normal.

(25)

```
                        IP
                       /  \
                     NP    I'
                     |      |
                  The dog   I'
                    ↑      /  \
                    |     I    VP
                    |     |   /  \
                    |   +PST  V'   PP
                    |        / \    |
                    |       V   VP  by the cat
                    |       |    \
                    |      was   V'
                    |           / \
                    |          V   NP
                    |          |    |
                    |        bitten the dog
                    |_____|
```
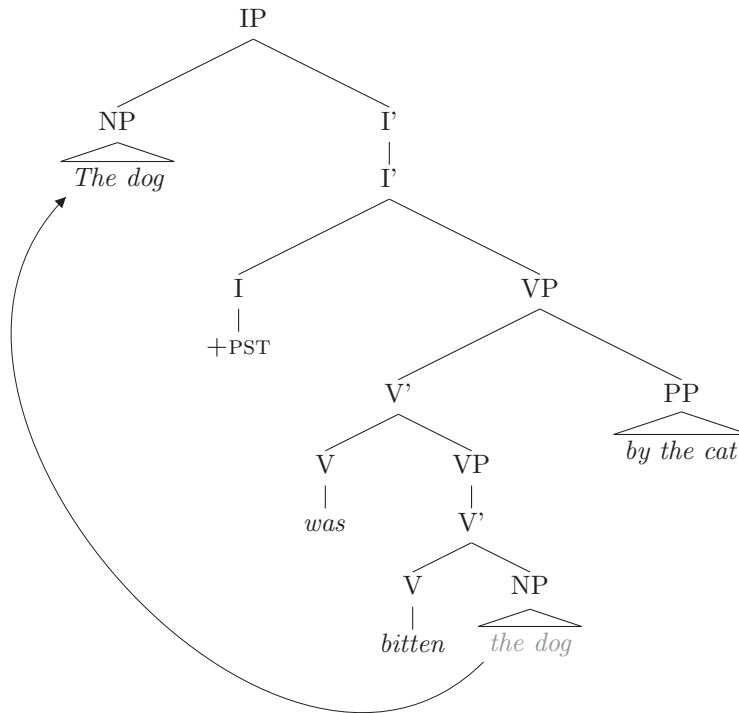
As already mentioned, this analysis is carefully crafted to be isomorphic to LGB passives; indeed, in Chomsky (1993)'s view, it is the Specifier of IP that undergoes demotion to an adjunct position (thereby creating the passive *by*-phrase), and the Theme NP, unable to receive Case, must undergo Wh-movement to the Specifier of IP in order to receive it. This derivation of the *LGB* passive is represented in (25) above.

Thus, according to Larson, both cases involve "withdrawal of Case from the object position" and "suppression of thematic role assignment to a subject position", whereby the domain of the passive is IP, and the domain of 'Dative Shift' is VP. All in all, Larson's analysis of English 'Dative Shift' is very much in the spirit of *LGB* in that the same set of 'tools' (the Theta Criterion, Case Theory, etc.) are used in the same way to motivate a unified analysis of seemingly different syntactic processes. It is also important to note that Larson's proposal is very much in the spirit of Baker (1997)'s Uniformity of Theta Assignment Hypothesis (UTAH); there is a one-to-one relationship between each specific Theta-role and its originally merged syntactic position. This more highly-constrained notion of where specifically Theta-marked NPs can and cannot be merged will also figure prominently in our eventual analysis.

<center>*   *   *</center>

Larson's initial proposal was not bulletproof. Indeed, Jackendoff (1990) criticized the latter's inability to account for the lack of full productivity of Dative Shift in English.[9] That being said, for our immediate purposes, we can still draw upon key parts of Larson's analysis of English 'Dative Shift' for our broader overall analysis of ditransitive phenomena in English and Chichewa.

Like Larson, **our analysis of the syntactic relationship between ditransitives in the prepositional and Double Object constructions will be a derivational one**. Furthermore, like for Larson **the prepositional construction is the more 'basic' of the two**, while the Double Object construction is derived from it.

Our analysis will also borrow the idea of **reanalysing V' as V** for the purposes of Head-movement, although, in our case it will crucially be used to derive the Double Object construction, and not 'Heavy NP Shift'. Our analysis will also feature a UTAH-faithful, **one-to-one relationship between specific arguments and their originally-merged syntactic position**, and it will be expanded to cover Goal, Benefactive and Instrumental ditransitives. Finally, our analysis of Dative Shift will be **less directly patterned on the _LGB_ passive** than Larson's, although some similarities will remain.

---

[9]Some examples of irregular Dative Shift behavior in English include _donate_-type and _spare_-type verbs in the pairs below, as pointed out by Jackendoff:

    (a) _Mary donated the money to charity._
    (b) *_Mary donated charity the money._

    (c) *_Mary spared the ordeal to John._
    (d) _Mary spared John the ordeal._

<center>23</center>

(26) Summary of Larson (1988) *vis-à-vis* this proposal

Larson (1988)	this proposal
a derivational relationship between the Double Object and prepositional constructions - the prepositional ditransitive construction is 'basic'	
core mechanic: reanalysis of V' as V for the purposes of Head-movement	
(used to derive "Heavy NP Shift")	(used to derive "Dative Shift")
one-to-one relationship between Theta-role and syntactic position	
accounts for Goal ditransitives	accounts for Goal, Benefactive and Instrumental ditransitives
closely patterned on *LGB* passive	not closely patterned on *LGB* passive

Baker (1988), Marantz (1993) and Larson (1988) are the three primary sources which we will draw upon in formulating our analysis in the following section. Nevertheless, the proposal in Section III will differ from these previous works in several important ways, as highlighted above. Perhaps the biggest difference between these previous proposals and the one in Section III is a matter of scope: Baker and Marantz concerned themselves strictly with Chichewa syntax, and Larson with English. Section III is first and foremost an attempt to 'bridge the gap' and formulate an analysis that can account for the data in these two typologically-different languages, with a view of perhaps extending it to even more.

III. The Proposal

1. The basic argument structure of verbs

I will now present an analysis that likens Double Object constructions in English to applicative constructions in Chichewa, and also accounts for some of the attested asymmetries in the latter. First, we must start with the argument structure of simple transitive verbs, and go from there.

(1.a) Basic argument structure
of a transitive verb
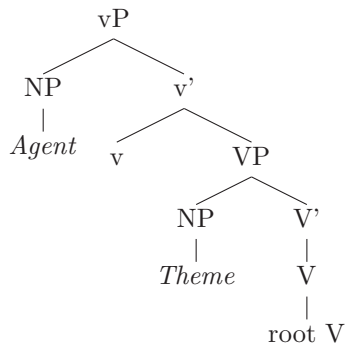
(1.b) Derivation of a transitive sentence
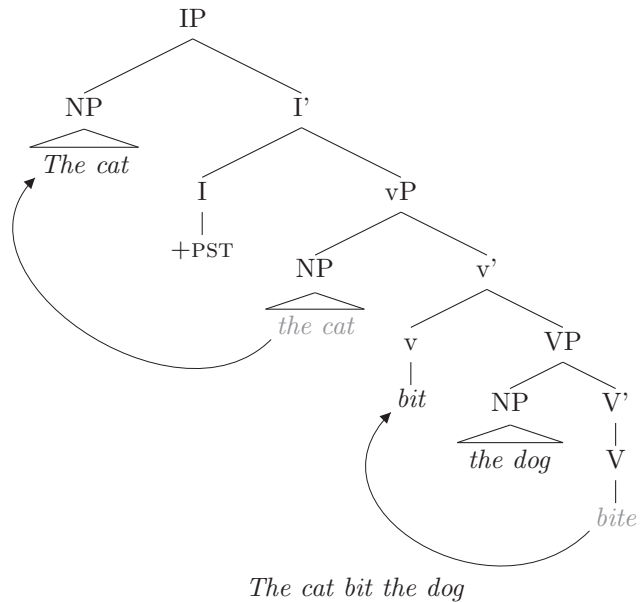
The syntactic structure represented in (1.a) is the basic argument structure for a simple transitive verb. The Theme NP is merged in Spec-VP, and the Agent NP is merged in the Specifier of vP, in accordance with the VP-Internal Subject Hypothesis first outlined in Koopman and Sportiche (1991). An Agent NP merged VP-internally is notable because it does not feature in any of the proposals we have seen so far. (1.b) shows the derivation of a basic transitive sentence in English.

The verb undergoes Head-movement to v as normal, and the Agent NP Wh-moves to Spec-IP as normal.

(2.a) Basic argument structure of a ditransitive verb

```
                    vP
                  /    \
                NP      v'
                |      /  \
             Agent    v    VP
                          /   \
                        NP     V'
                        |     /  \
                     Theme   V    ObP
                             |     |
                          root V   Ob'
                                   /  \
                                 Ob    NP
                                       |
                                     Goal,
                                  Benefactive,
                                     etc.
```
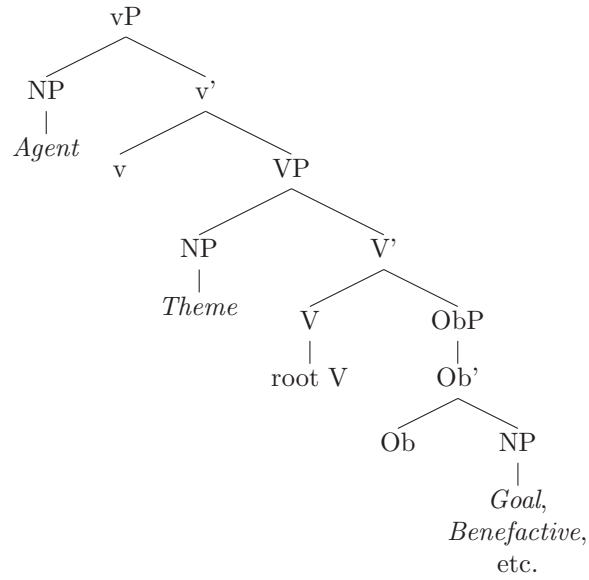
(2.b) Derivation of a ditransitive sentence - prepositional dative (English)

```
                  IP
                /    \
              NP      I'
              |      /  \
            Mary    I    vP
                    |   /   \
                 +PST  NP    v'
                       |    /  \
                     Mary  v    VP
                           |   /   \
                         gave NP    V'
                              |    /  \
                           candy  V    ObP
                                  |     |
                                give   Ob'
                                       /  \
                                     Ob    NP
                                     |     |
                                     to  the children
```

Mary gave candy to the children

26
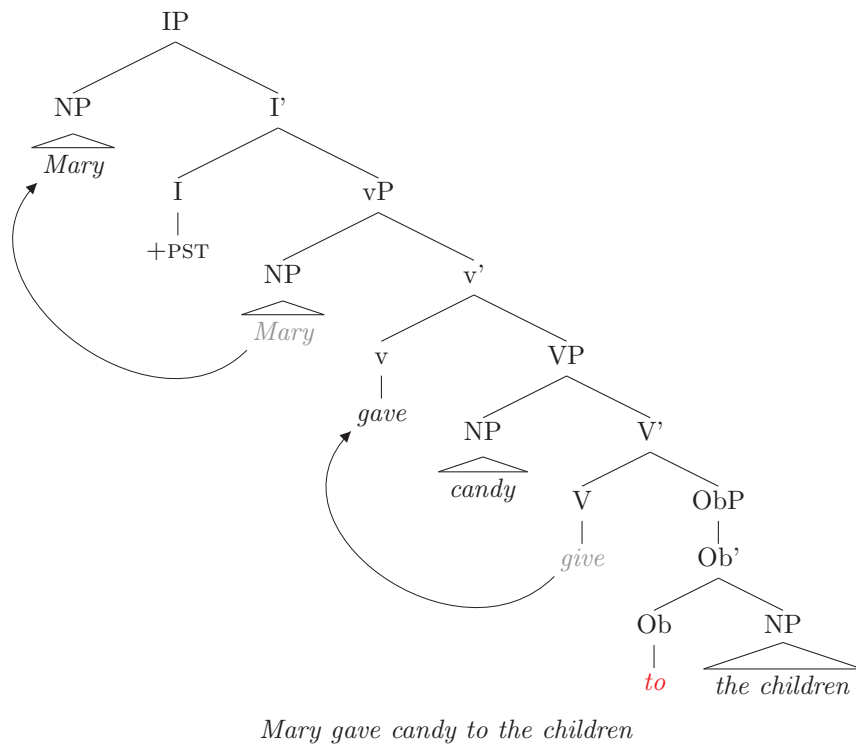
The syntactic structure sketched in (2.a) is the basic argument structure for a ditransitive verb. In the complement of VP, the Oblique Phrase (ObP) is the location where all the 'traditional' oblique arguments are merged (Benefactive, Goal, etc.), but crucially, *not* Instrumental arguments (more on that in Section III.3).

The tree in (2.b) represents the derivation of a ditransitive sentence of English in the prepositional construction. The key morphosyntactic mechanic to note here is that the preposition *to* is not merged in the underlying form in the head of ObP; rather, it is inserted to satisfy the Theta-marking requirements of the Goal argument *the children*, which cannot be satisfied by the verb (similar to the analyses of Baker and Marantz). The appropriate preposition for each argument is listed in the lexicon, and verb-specific exceptions to this Theta-role-to-preposition correspondence may be lexically listed as well.

2. Deriving the Double Object construction

(2.c)   Derivation of a ditransitive sentence – Double Object
          construction (English) – Part I

27
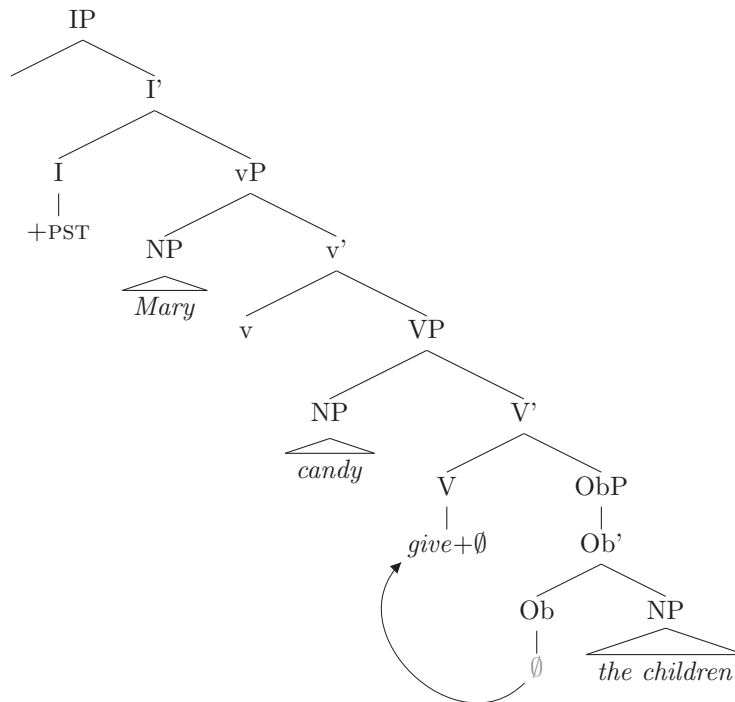
(2.d)   Derivation of a ditransitive sentence – Double Object
           construction (English) – Part II
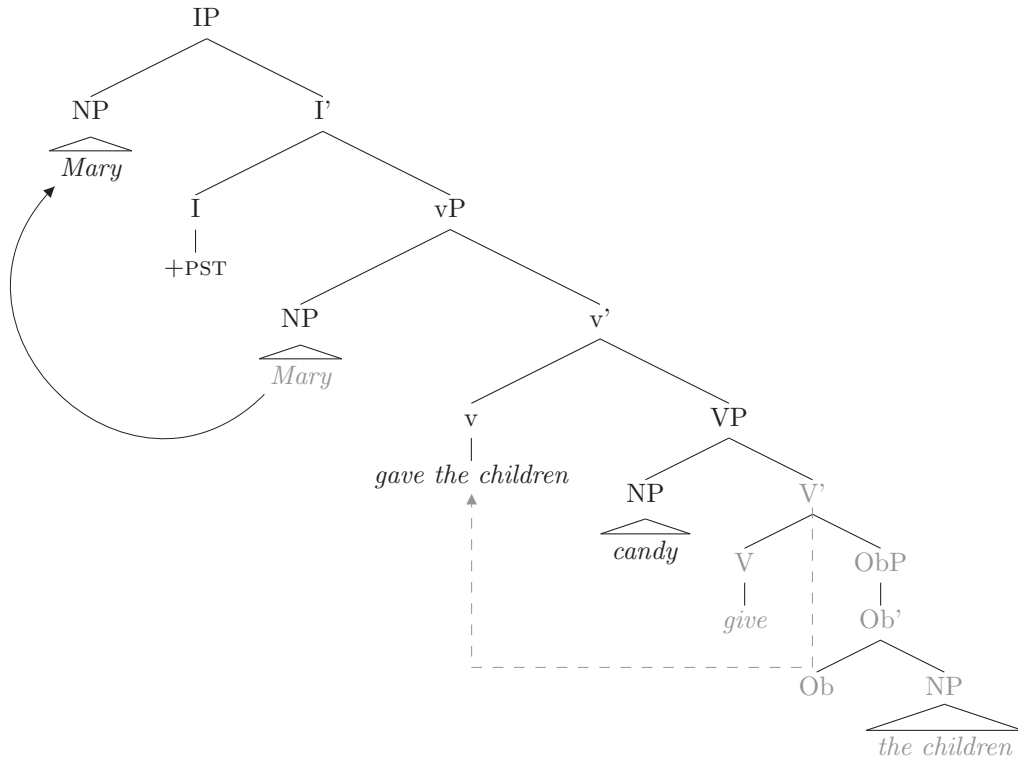
Mary gave the children candy

The trees in (2.c-2.d) detail the derivation of a Double Object ditransitive in English from the basic argument structure outlined in (2.a). Just as in the the prepositional dative, the Goal argument *the children* requires Theta-marking. Thus, in (2.c), a phonologically-null suffix is merged in the head of ObP to fulfill this requirement. The zero-suffix then undergoes Head-movement to V and attaches to the verbal root.

The presence of this applicative suffix triggers a process of syntactic Reanalysis: instead of just the verbal root *give* (as in a prepositional ditransitive construction), the entire string in V' *give the children* is instead treated as the head of VP and moves to the head of vP.[10] When the Agent NP moves to Spec-IP as normal, the end result is the Double Object construction.

The story we have sketched thus far can account for Barss and Lasnik (1986)'s C-

---

[10]This notion of restructuring is different than that offered in Cinque (2006), and the differences between the two notions are beyond the scope of the present work.

command asymmetries, which was a principal concern to Larson (1988)'s original analysis of English Double Objects. Note that, in a prepositional construction such as (2.b), the Theme NP will always C-command the Goal NP, which correctly predicts the following asymmetries (assuming that C-command is 'checked' after movement)[11]:

(3.a) *Mary gave his$_i$ paycheque to every worker$_i$.

(3.b) Mary handed every book$_i$ to its$_i$ rightful owner.

Furthermore, derived Double Object constructions in the shape of (2.d) make the right predictions about the grammaticality of the sister-sentences to (3.a-3.b), (3.c-3.d). This is because, in sentences where Reanalysis has taken place, the Goal NP in v will always C-command the Theme NP in the Spec of VP below.

(3.c) Mary gave every worker$_i$ his$_i$ paycheque.

(3.d) *Mary handed its$_i$ rightful owner every book$_i$.

Under this analysis, the prepositional and 'Double Object' constructions of Chichewa are derived quite analogously to their English counterparts. In (4.a), we have a prepositional construction of Chichewa analogous to English (2.b). The lexically-indexed preposition *kwa* is inserted to Theta-mark the Goal *mfumu* 'chief'. The verb root then moves to v, and the Agent NP moves to Spec-IP.

The trees in (4.b-4.c) represent the analogous Double Object construction to English (2.c-2.d). In (4.b), the applicative suffix *-er* is merged in Ob to Theta-mark the Goal NP. As in English, it moves up to V to attach to the verbal root. Then, in (4.c), Reanalysis takes place due to the applicative suffix *-er*, moving the verb root and the Benefactive NP to v and producing the attested word order.

---

[11]In a derivational approach such as this one, deriving C-command relations after all syntactic movement is a logical necessity. Computing C-command before movement would falsely predict the ungrammaticality of (3.c), where the Goal does *not* C-command the Theme in the underlying representation. For the same reason, it would also falsely predict the grammaticality of (3.d).

(4.a)   Derivation of a ditransitive sentence - prepositional dative (Chichewa)
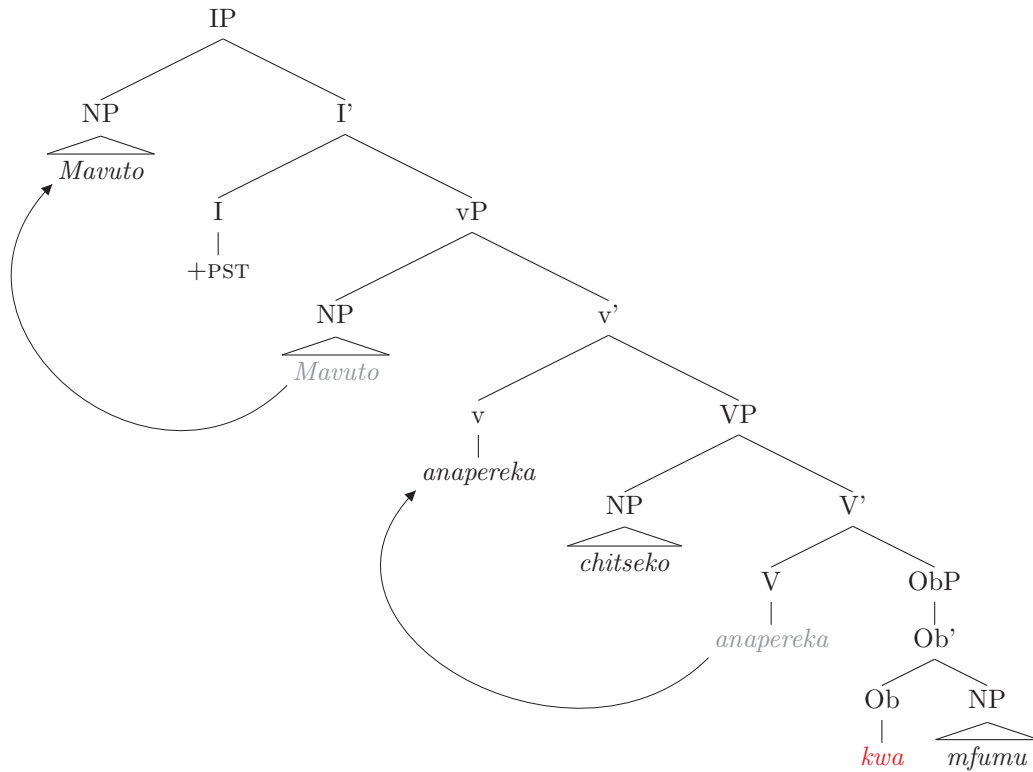
Mavuto anapereka chitseko kwa mfumu
Mavuto give   door   to   chief

'Mavuto gave the door to the chief.'

(4.b)   Derivation of a ditransitive sentence – Double Object
          construction (Chichewa) – Part I

IP
  I'
    I
    |
    +PST
    vP
      NP
      Mavuto
      v'
        v
        VP
          NP
          chitseko
          V'
            V
            |
            anaperek+er+a
            ObP
              Ob'
                Ob
                |
                er
                NP
                mfumu
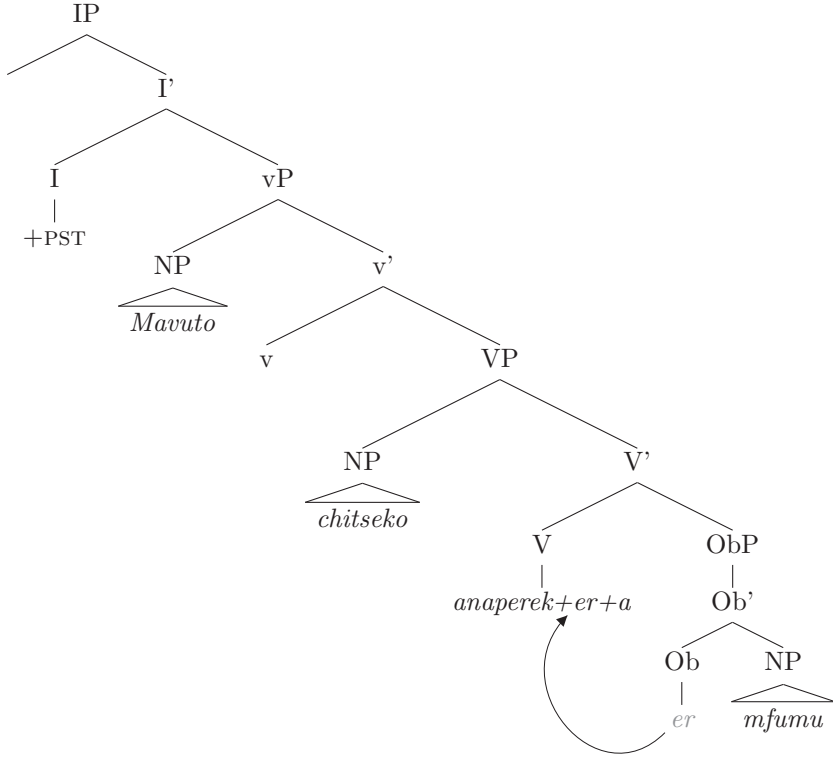
(4.c)   Derivation of a ditransitive sentence – Double Object
construction (Chichewa) – Part II
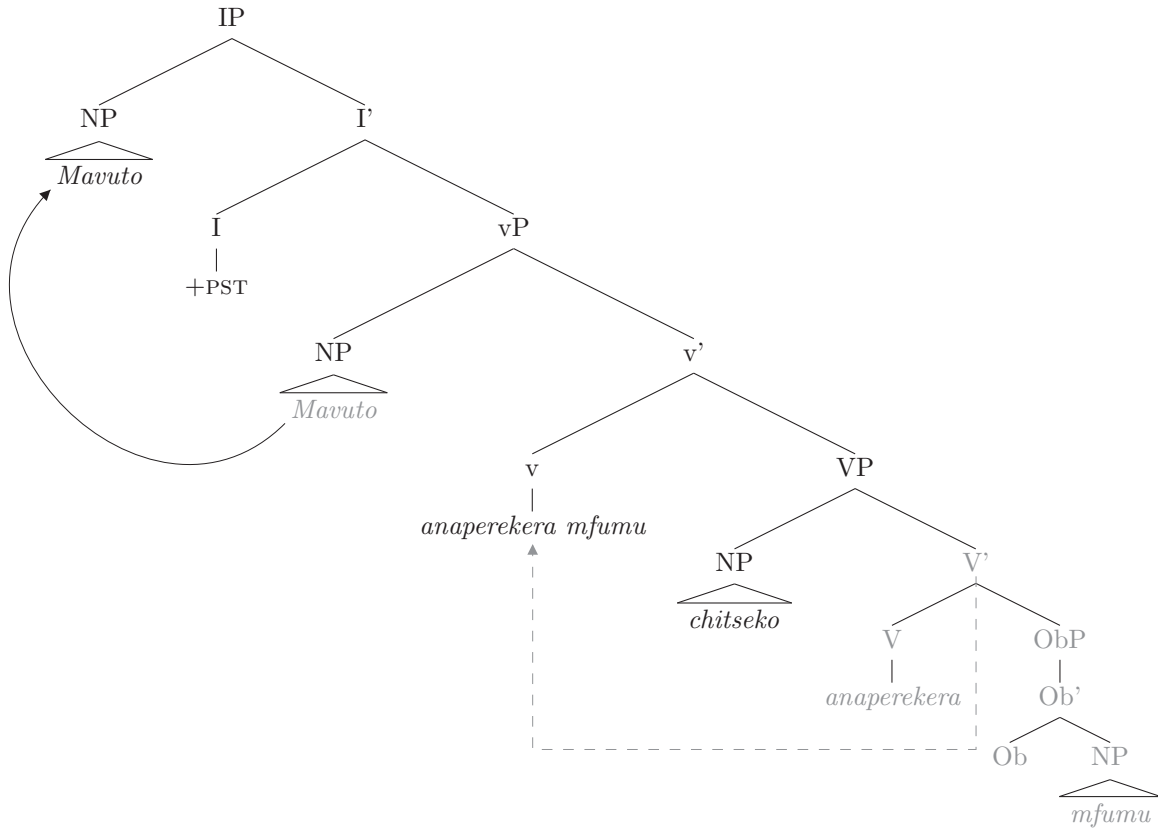
Mavuto anaperekera mfumu chitseko
Mavuto give+APPL   chief   door
'Mavuto gave the chief the door.'

This analysis of prepositional and Double Object constructions is neat (in the parsimonious sense) because it essentially treats the applicative suffix and certain specific prepositions as reflexes of the same morphosyntactic requirement, along the same lines as Baker (1988).[12] Additionally, as per Marantz (1993), both realizations of this morphosyntactic element are merged in the same location, the head of ObP. From this position, they both serve the same purpose of assigning a Theta-role to an argument NP that otherwise can't receive any from the 'traditional' assigner of Theta-roles, the verbal root in VP. An example paradigm for the morphosyntactic element that

---

[12]In Chichewa, *-er/-ir* and P *kwa* are in complementary distribution. The only time both may be realized in the same sentence is if each Theta-marks a different argument in a sentence with two or more oblique NPs. Interestingly, two or more oblique NPs may each receive their Theta-role from a separate preposition, but only a maximum of one may ever do so from the applicative suffix. This may be interpreted as evidence that receiving Theta-marking by preposition is the 'default' Theta-marking mechanism.

Theta-marks Goal arguments in English and Chichewa is represented in (5).

(5) Theta-marking of Goal NPs in English and Chichewa

	English	Chichewa
prepositional construction	*to*	*kwa*
Double Object construction	*-∅*	*-er/-ir*

3. The special case of Instrumentals

It has been proposed in the literature that Instrumental arguments are fundamentally different from other non-Agent, non-Theme arguments. As reviewed in Section II.2, Baker (1988) proposed that the difference lies in how an Instrumental NP receives its Case- and Theta-marking. Marantz (1993) surmised that the Instrumental argument is conceptually 'closer' to the core semantic event of a sentence than, say, a Goal argument. Both works resulted in an analysis whereby Instrumentals were less constrained in where they could be merged, how they could be marked, *et cetera*.

I would like to propose instead that Instrumental NPs are consistently merged in one position: as a right-adjoining adjunct in VP. As in the previous work cited above, Instrumental NPs still receive their Theta-role directly from the verb, being merged in VP. Instrumental NPs would thus be an exception to the generalization that adjuncts don't typically contain arguments, similar to the agentive *by*-phrase in the *LGB* passive. The basic argument structure of a ditransitive Instrumental construction is represented below.

(6.a) Basic argument structure of a ditransitive verb (with Instrumental argument)

```
                      vP
                     /  \
                   NP    v'
                   |    /  \
                 Agent v    VP
                          /    \
                        NP      V'
                        |      /  \
                      Theme  V'    NP
                             |     |
                             V  Instrumental
                             |
                           root V
```
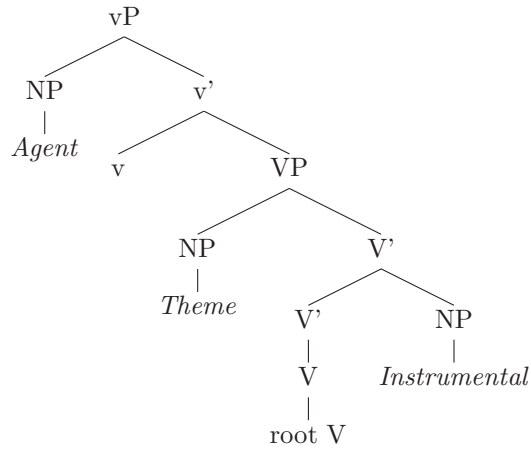
   The trees in (6.b) and (6.c) represent the derivation of a prepositional Instrumental ditransitive in English and Chichewa, respectively. It is important to note that, despite being Theta-marked by the verb in VP, the Instrumental argument still requires a preposition in the prepositional construction. In fact, one might expect an Instrumental NP not to need such a preposition, given that the verb fulfills its Theta-marking requirement. Like in the proposals of Baker and Marantz, we will adopt the nuanced view that the preposition in such constructions is fulfilling a different requirement, Case-marking.

(6.b)   Instrumental ditransitive in the prepositional construction (English)

Mary hit the ball with a baseball bat
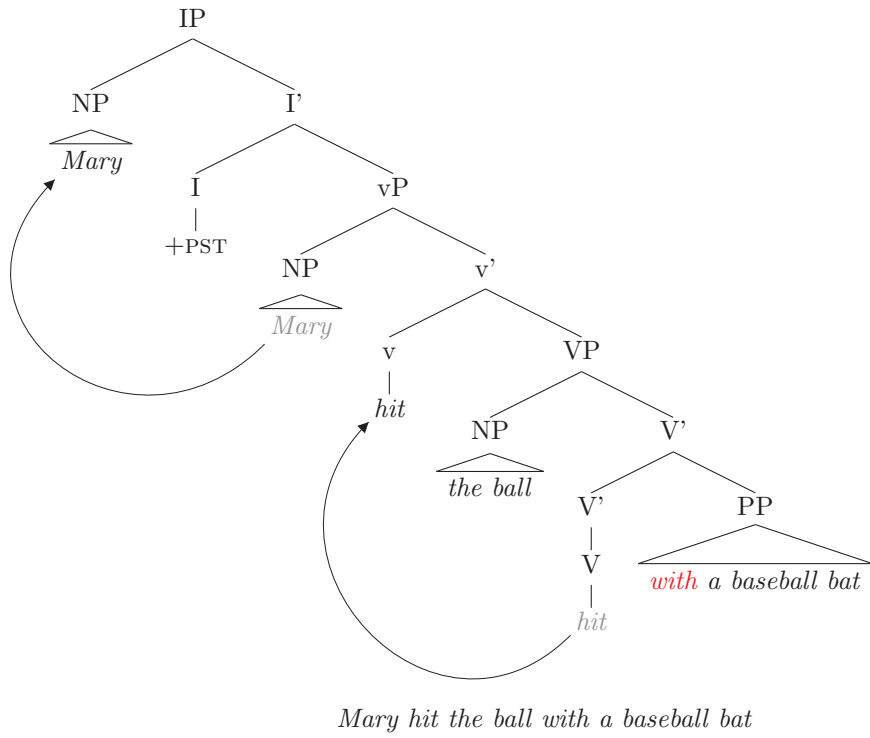
(6.c)   Instrumental ditransitive in the prepositional construction (Chichewa)

<div align="center">
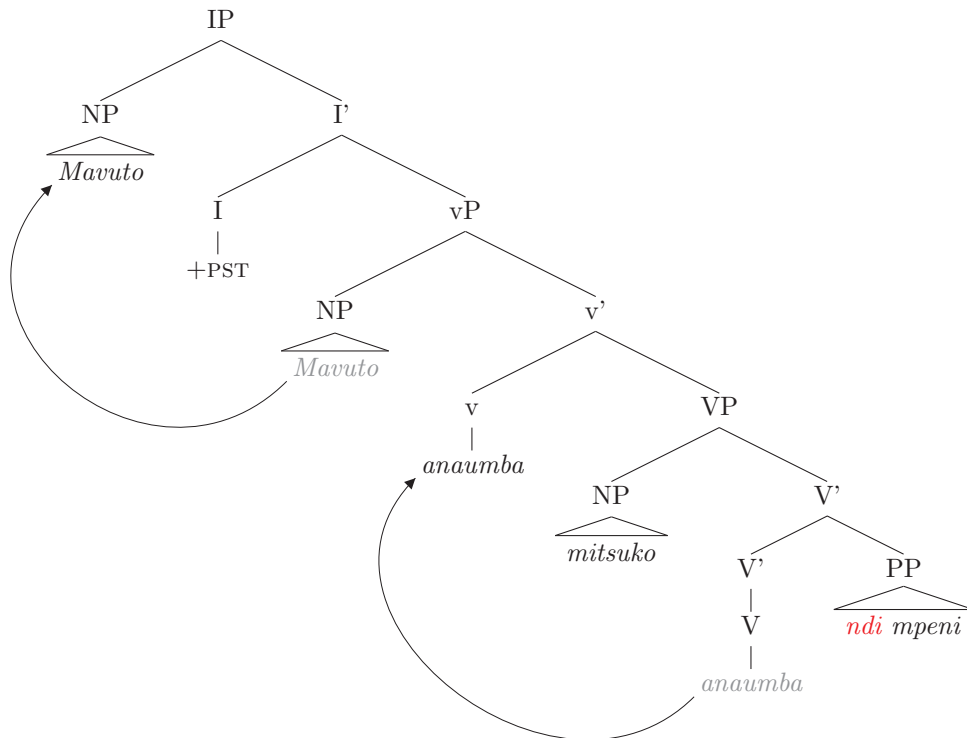
Mavuto anaumba mitsuko   ndi   mpeni
Mavuto mold   waterpots with knife

'Mavuto molded the waterpots with a knife.'

</div>

A few notes are in order here. First, the argument structures sketched in (2.a) and (6.a) evoke the two-tiered distinction in Marantz (1993)'s analysis of Chichewa. Under this proposal, arguments merged within the maximal projection VP are assigned their Theta-role directly by the verbal root – this corresponds to what Marantz identified as the 'core' or 'inner' semantic event. On the other hand, those arguments merged under the maximal projection ObP are assigned their Theta-role by the head of ObP. This roughly corresponds to what Marantz identified as arguments more semantically 'distant' from the core semantic event.

(7) Overview of the proposal – 'inner' and 'outer' arguments of the event
are modeled structurally, *re* Marantz (1993)
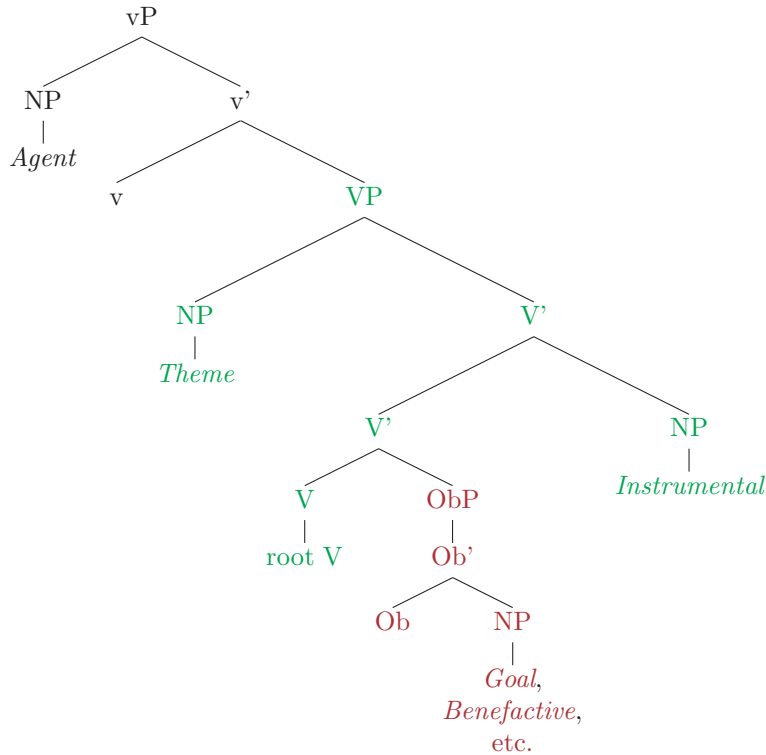
Additionally, given the ungrammaticality of **Mary hit a baseball bat the ball* (to mean the same thing as in 6.b), it is obvious that Reanalysis of a V' that includes an Instrumental argument is blocked in English. Under our analysis, we are forced to say that this is the result of an

idiosyncratic parameterization of English. On the other hand, Reanalysis of the same V' constituent is allowed in Chichewa, which produces a sentence superficially similar to the standard Double object construction in (4.b-4.c). Similar to Chichewa's prepositional Instrumental construction, a superficially similar counterpart to the applicative suffix merged in ObP is required. As in Marantz and Baker, we will also propose the same function for the *-er/-ir* affix observed in Instrumental Double Object constructions, namely that it is fulfilling a Case-marking requirement and not a Theta-marking requirement.

The benefit of assigning Instrumental arguments to an adjunct position in VP is that it affords us a very good explanation for the word-order asymmetry observed Instrumental and Benefactive ditransitives. Recall that in Instrumental applicative sentences *only*, both word orders of V+APPL-THEME-INSTR and V+APPL-INSTR-THEME are attested; however, in Benefactive applicative sentences, *only* the word order V+APPL-BENE-THEME is attested (see 11-12 in Section II).

In (8.a), we have represented the derivation that produces the first of these Instrumental word orders. As in a 'standard' Double Object construction, the presence of the applicative suffix triggers Reanalysis, which here has occurred at the higher V' level. As a result, both the verb root and the Instrumental NP *mpeni* move to the head of vP. In (8.b), however, Reanalysis has still occurred at the V' level, but this time at the 'lower' one – leaving the Instrumental NP in its originally-merged position. In either case, the process of Reanalysis is consistent with our original definition: take V' and treat it as V for the purposes of Head-movement to v.

This additional flexibility is unavailable in the Reanalysis of the other oblique arguments such as Benefactives and Goals. By definition, these arguments will always be included in V', and thus must undergo movement to v every time in the Double Object construction. Our proposed argument structure here provides a structural, but also more constrained explanation for this observed asymmetry in Chichewa.

(8.a)   Instrumental ditransitive in the Double Object
construction – VERB-THEME-INSTR (Chichewa)

IP

NP
Mavuto

I'

I

+PST

vP

NP
Mavuto

v'

v
anaumbira mpeni

VP

NP
mitsuko

V'

V'

V
anaumbira

NP
mpeni
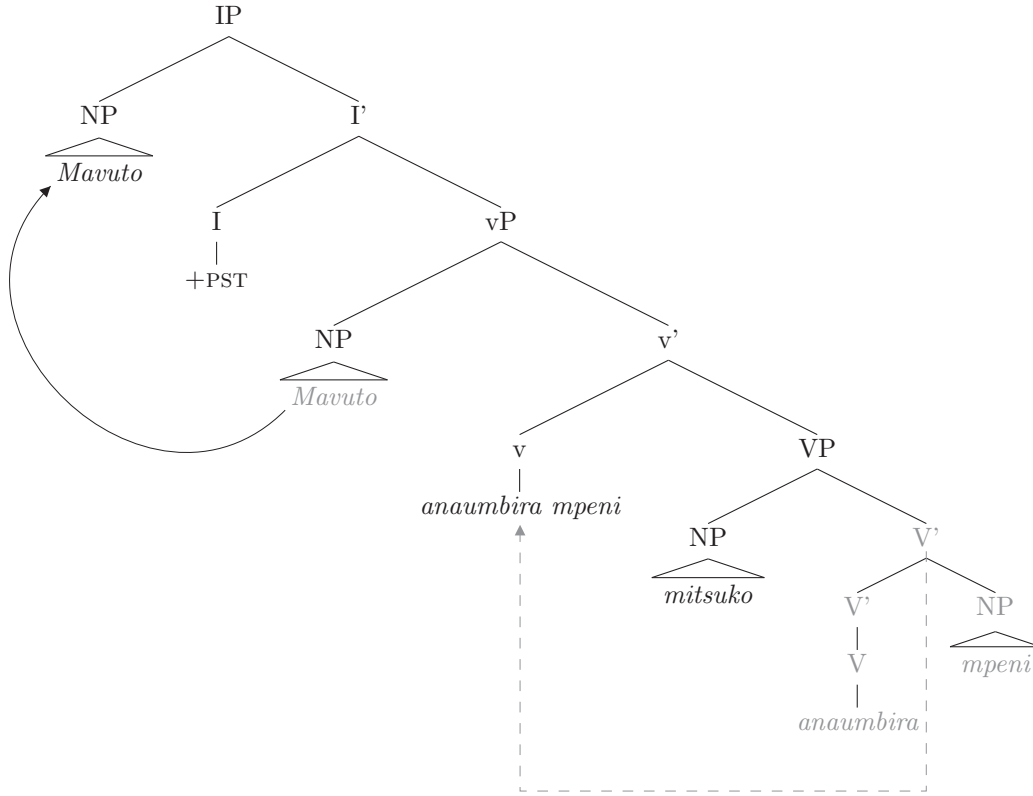
Mavuto anaumbira   mpeni mitsuko
Mavuto mold+APPL knife   waterpots

'Mavuto molded the waterpots with a knife.'

(8.b)   Instrumental ditransitive in the Double Object
             construction – VERB-INSTR-THEME (Chichewa)

Mavuto anaumbira   mitsuko   mpeni
Mavuto mold+APPL waterpots knife
'Mavuto molded the waterpots with a knife.'
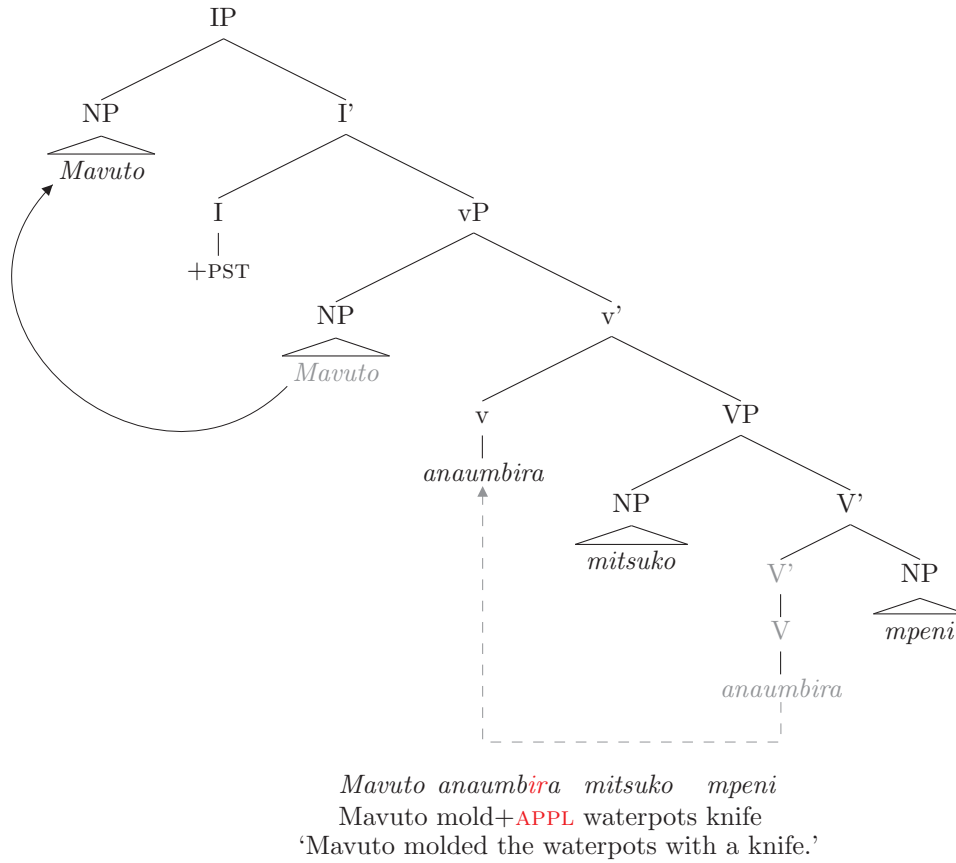
4. The Chichewa relativization asymmetry

We can make use of the proposed difference in argument structure between Instrumental arguments and the 'rest' of the oblique arguments to account for Chichewa's relativization asymmetry as well. Recall that, in Chichewa Instrumental applicative constructions, both the Instrumental and Theme NP can undergo Wh-movement out of that IP and into a higher IP. However, in the equivalent Benefactive constructions, only the Theme may do so (see examples 2-3 in Section II).

An explanation for this asymmetry is forthcoming if we posit that the process of Reanalysis 'freezes' the string that has moved to v – perhaps on some phonological level, the string is reinterpreted as a non-compositional single word. This would be consistent with our overall hypothesis that a Reanalyzed V' string is treated as a single morphosyntactic 'unit' as it moves to the head of vP. In Benefactive applicative sentences, the Benefactive NP is always 'along for the ride'

to v as part of Reanalysis, and thus it will never be able to undergo further Wh-movement up the tree.[13] This is represented in (9) below.

(9) A Reanalyzed constituent is barred from further Wh-movement operations
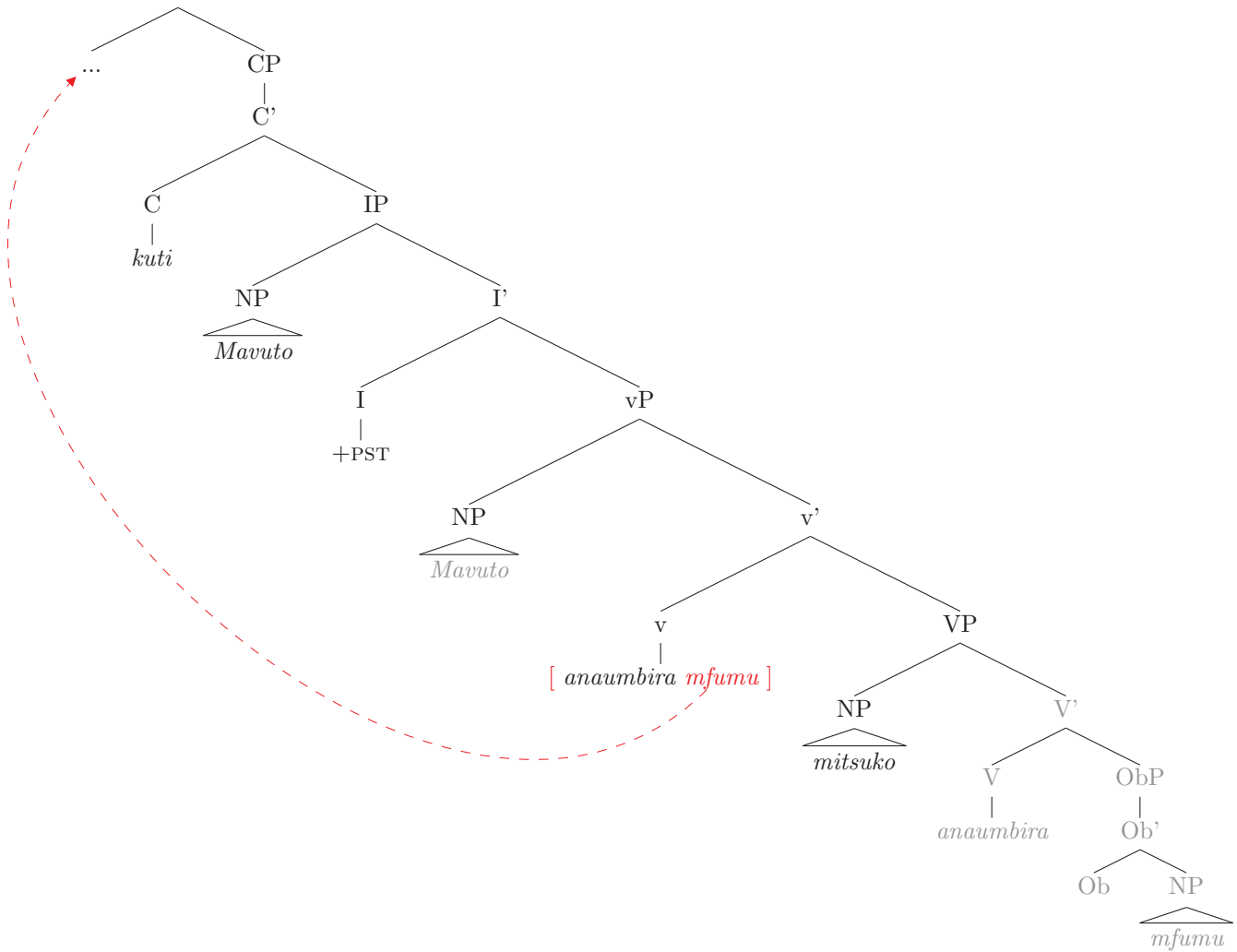
```
...          CP
             |
             C'
        ┌────┴────┐
        C         IP
        |     ┌───┴────┐
       kuti   NP       I'
             Mavuto  ┌─┴──────┐
                     I        vP
                     |      ┌──┴────┐
                   +PST    NP       v'
                         Mavuto  ┌──┴────────┐
                                 v           VP
                                 |        ┌──┴────┐
                          [ anaumbira mfumu ]    NP       V'
                                        mitsuko ┌─┴────┐
                                                V      ObP
                                                |       |
                                            anaumbira  Ob'
                                                    ┌──┴──┐
                                                    Ob    NP
                                                         mfumu
```

* *Iyi   ndiyo mfumu imene ndikuganiza kuti Mavuto anaumbira mitsuko*
This is   chief   whom think   that Mavuto mold-APPL waterpots

'This is the chief whom I think Mavuto molded the waterpots for.'

---

[13]Note that this makes a specific prediction about Wh-extraction of the Theme from a Double Object construction of English:

(e) ? *Who did you [send t] a letter?*

(f) ? *It was John that I [sent t] a letter.*

If, for some speakers, (e-f) don't elicit a perfect grammaticality judgment, it is an argument in favor of the 'freezing' analysis proposed in Section III.4.

On the other hand, Instrumental NPs are still free to Wh-move to a higher IP in the course of a derivation like (8.b) above. In this case, the 'lower' V' is the locus of Reanalysis. The Instrumental NP remains in its originally merged position, and is free to undergo relativization, as it never took part in Reanalysis in the first place. This is represented in (10) below. Note also that, in all cases, the Theme NP is unconstrained in terms of relativization.

(10) If the Instrumental NP does not take part in Reanalysis, it may relativize as normal

Uwu ndi mpeni umene ndikuganiza kuti Mavuto anaumbira mitsuko
This is   knife   which   think   that Mavuto mold-APPL waterpots
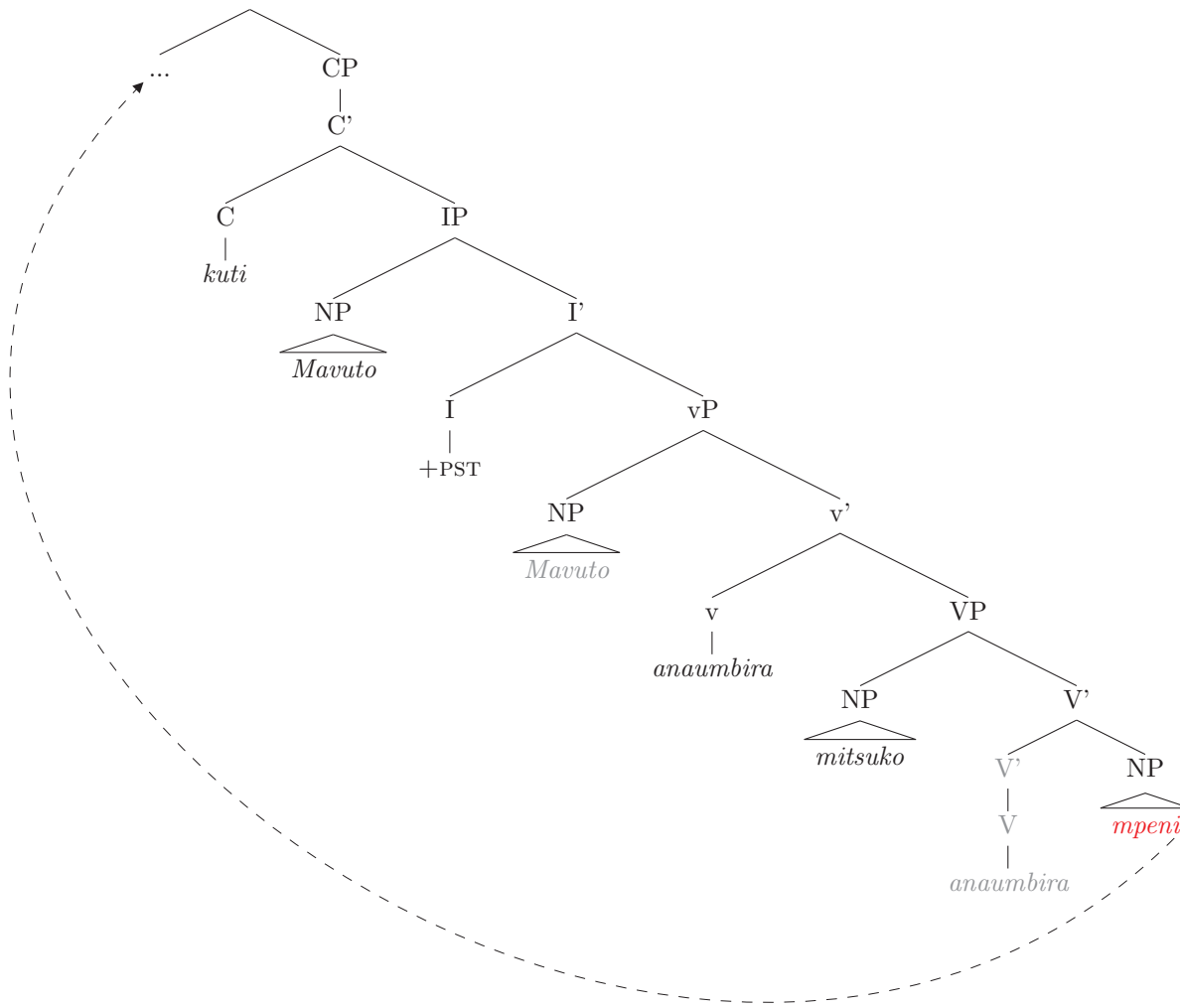'This is the knife which I think Mavuto molded the waterpots with.'

This analysis makes the prediction that no such restriction on Wh-movement out of IP would apply to Benefactive/Goal arguments in non-applicative (i.e. prepositional) constructions.

In these prepositional constructions, Reanalysis would not have taken place at all, and thus there would be no 'freezing' effect observed in applicative Benefactive/Goal constructions. It turns out that this prediction is true, as in (11).

(11) *Iyi   ndiyo mfumu imene ndikuganiza kuti Mavuto anapereka chitseko*
     This is   chief   whom think   that Mavuto give   door
     'This is the chief whom I think Mavuto gave the door to.'

5. The Chichewa Object Prefixation asymmetry

In the course that we are pursuing here, resolving the Chichewa Object Prefixation asymmetry will prove to be the most difficult of all. Recall that, in Instrumental Double Object constructions, both the Theme and Instrumental NPs may be represented as a word-class-specific Object Prefix; however, in equivalent Benefactive constructions, only the Benefactive NP may do so (see 4-5 in Section II).

If we assume that Reanalysis is required for Object Prefixation – and there is no counter-evidence to this assumption in the data so far, seeing as how every instance of OP occurs in a Double Object construction – we may begin to formulate an answer. Suppose that an Object Prefix is lexically-inserted in the same head as the applicative suffix *-er/-ir*, specifically because the Object Prefix requires the latter. Suppose further that the Object Prefix can only bind as its antecedent an argument within the phrase it is originally inserted in. We would then have a good reason why only the Benefactive NP in Benefactive constructions cannot be prefixed.

Recall from the preceding subsections that in Instrumental constructions, *-er/-ir* is inserted in VP. As such, it can have as its antecedent both the Instrumental or Theme NPs. In contrast, in Benefactive Double Object constructions the applicative suffix is inserted in head of ObP. The only valid candidate for OP is thus the Benefactive NP in the complement position. Under such a hypothesis, the locus of Object Prefixation for Benefactive and Instrumental constructions is represented in (12.a) and (12.b), respectively.

(12.a)

```
              VP
             /  \
           NP    V'
           |    /  \
         Theme V    ObP
               |    |
            root V  Ob'
                   /  \
                  Ob   NP
                  |    |
              OPᵢ - er  Benefactiveᵢ
```

$(12.a)$: VP → NP (Theme), V' → V (root V), ObP → Ob' → Ob (OP$_i$ - *er*), NP (*Benefactive$_i$*)

(12.b)

```
              VP
             /  \
           NP    V'
           |    /  \
        Themeᵢ  V'   NP
                |    |
                V  Instrumentalⱼ
                |
         OPᵢ/ⱼ - root V - er
```

$(12.b)$: VP → NP (*Theme$_i$*), V' → V' → V (OP$_{i/j}$ - root V - *er*), NP (*Instrumental$_j$*)
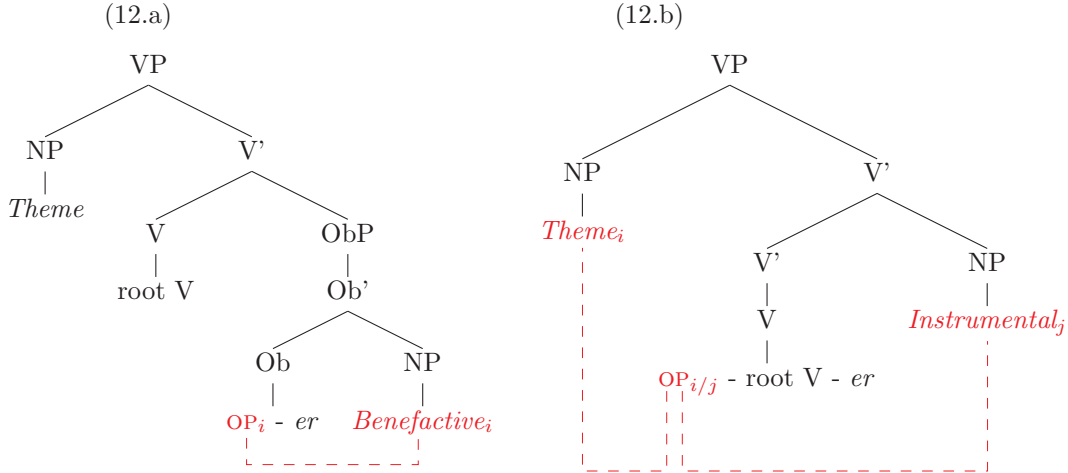
However, there is an added wrinkle to the problem of Chichewa's OP asymmetries that muddies the waters. Bresnan and Mchombo (1987) attest that the prefixed argument is optionally realizable in its full NP form. What's more, it can only do so in a very specific position. Effectively, the observation is that this optionally-realizable argument (with a co-indexed Object Prefix) must occur last in word order.

Bresnan and Mchombo present an analysis whereby the prefixed argument has been 'topicalized', but to the right of the syntactic tree. Alternatively, it is tempting to conjure up an analysis that conforms to Kayne (1994)'s Antisymmetry hypothesis, whereby the argument NP co-indexed with the Object Prefix is actually realized in its originally-merged position. However, accounting for *all and only* the attested word orders of OP requires a series of *ad hoc*-looking constraints to be compatible with our existing analysis of Dative Shift via Reanalysis.

While the answer to the intricacies of Chichewa OP may lie squarely within the realm of syntax, it is also a possibility that the answer lies at the interface between syntax and phonology. Many languages, such as Quebec French, can optionally realize the full NP antecedent of a pronoun at the end of a sentence. What's more, this NP is usually marked by a specific pitch contour or intonation that distinguishes it from the rest of the sentence.

(13.a) *Il$_i$ va etre en retard,* [*le docteur$_i$*]
     He FUT be late   the teacher

'He will be late, the doctor.'

(13.b) *Je l'$_i$ ai vue hier,*   [*l' exposition$_i$*]
I   it   AUX seen yesterday   the exhibit

'I saw it yesterday, the exhibit.'

Especially if this optionally-realized Chichewa NP is characterized by a particular tone, then we might indeed be justified in considering the explication of the Chichewa OP facts in full to be outside the scope of this thesis. As of now, we can only offer a partial explanation of why the Theme NP is an ineligible candidate for OP in Benefactive applicatives, and leave the rest open to further research.
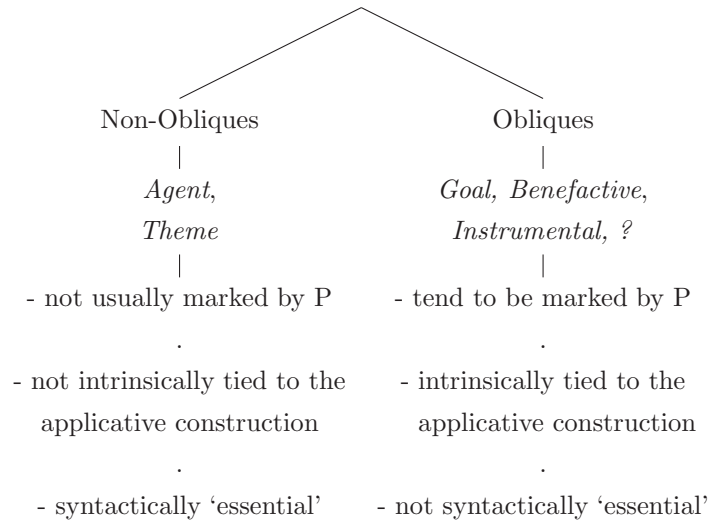
IV. Discussion

1. Natural classes within 'Obliques'

Among all Theta-roles, it appears as if Agents and Themes pattern together on the one hand, and the 'rest' of them (i.e 'Oblique' arguments) also pattern together on the other. One source of evidence for this fundamental distinction is that the latter tend to be preceded by prepositions; however, to my knowledge, no language features prepositions that systematically precede Agent or Theme NPs in unmarked, 'active voice' sentences. Another source of evidence for this divide is the Chichewa applicative construction itself: this derived construction seems inextricably linked to Benefactive/Goal/Instrumental NPs, and not necessarily to Agent or Theme NPs.[14]

Finally, it should be relatively uncontroversial to treat Agents and Themes as a natural class apart from Obliques due to the fact that the former are syntactically 'required': aside from sentences with 'weather' verbs, a given verb will always feature either an Agent or a Theme. The same cannot be said for any of the Oblique arguments. Obliques, as a whole, appear to be more optional than Agents and Themes (although this is obviously not absolute, given that some verbs indeed require a third argument). Without a doubt, there must be other properties that distinguish non-Obliques from Obliques; those featured in the schema below are just a snapshot of the ways in which the two groups systematically differ.

---

[14]Baker (1988) notes that the applicative construction is possible in intransitive sentences, although some restrictions apply.

(1)

```
                          /\
                         /  \
                        /    \
            Non-Obliques        Obliques
                 |                  |
              Agent,           Goal, Benefactive,
              Theme            Instrumental, ?
                 |                  |
       - not usually marked by P   - tend to be marked by P
                 .                  .
       - not intrinsically tied to the   - intrinsically tied to the
          applicative construction        applicative construction
                 .                  .
       - syntactically 'essential'   - not syntactically 'essential'
```

More controversially perhaps, I would like to propose that within the class of Oblique arguments itself, a further binary sub-division seems motivated: the one, alluded to at the end of Section III, between NPs merged as adjuncts in VP (such as Instrumentals) and NPs merged as complements in ObP (such as Benefactives and Goals). At this point, evidence seems scattered, but we may nevertheless begin to build an argument in this partition's favor.

In Baker (1988), it was asserted that Goal NPs pattern as Benefactive NPs in Chichewa. This same pattern is tentatively confirmed for English, as well. In English, only two kinds of Oblique arguments may undergo Reanalysis: Goal NPs (ex.: *Mary gave the children candy*) and Benefactive NPs (ex.: *John baked Mary a cake*), although the latter is not fully productive.[15] All other Oblique NPs, such as Instrumentals, are ruled out under any circumstances (ex.: **John molded the knife the waterpot*). One might object to this argument, pointing out that in Chichewa, *all* Oblique NPs may undergo Reanalysis; however, this is not a problem for our present proposal regarding the classification of arguments, it is in fact predicted since Obliques as a whole constitute a natural class. A more problematic counter-example would be a language in which, for instance, Benefactives and Instrumentals *only* may undergo a particular syntactic process (such as Reanalysis), but not Goals. To my knowledge, no such evidence yet exists.

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[15] For example, **Mary killed the mobster John* (to mean *Mary killed John for the mobster*) is ungrammatical. It has been proposed by Green (1974), Gropen et al (1989) and others that this is due to a semantic restriction. In their view, verbs like *bake* belong to a semantic class of "creation verbs", which allow Dative Shift in benefactive ditransitives; a verb like *kill* does not belong to any of these allowed semantic verb classes, therefore it may not.

Indeed, if the proposal we are developing here is that a neat binary division exists among Obliques themselves, then we would predict that Oblique arguments other than the Instrumental, Goal or Benefactive would 'fall in' neatly into one or the other category. As it were, additional preliminary evidence seems to lend support to this proposal. In Chichewa, Locative NPs appear to pattern like Instrumentals. According to Alsina and Mchombo (1990), Locative applicatives pattern like Instrumentals applicatives in the following four ways: **a)** Locative applicatives feature two different word-order configurations, V-LOC-THEME and V-THEME-LOC (compare with 11-12 in Section II); **b)** both the Locative and Theme NPs may be Object Prefixed (compare with 4-5 in Section II); **c)** both the Locative and Theme NPs may be relativized (compare with 2-3 in Section II); and **d)** Locative intransitive applicatives are grammatical (like Instrumental, but not Benefactive or Goal intransitive applicatives, as explained by Alsina and Mchombo). Curiously, Locative applicatives pattern like Goals/Benefactives in one important respect: the Theme NP can be passivized. In this respect, Locative applicatives are an outlier. Nevertheless, from (a-d), we see that the Locative overwhelmingly patterns with Instrumentals.

Further evidence may be found in Noun Incorporation. According to Baker (1988), Benefactive/Goal NPs do not Noun-Incorporate cross-linguistically. However, in languages that feature Noun-Incorporation, two patterns emerge: languages that only incorporate Theme NPs, and languages that only Incorporate Theme NPs and Instrumental NPs. If we very generally state that the locus of Noun-Incorporation is the VP phrase, our model adequately predicts these facts.

In fact, if, as above, we are arguing that Locatives also belong to the same constrained natural class of Obliques as Instrumentals, we would predict that – unknown to Baker (1988) – some languages may indeed noun-incorporate Locative NPs as well. I know of at least one such language (so far), Ayutla Mixe. Example (2) is taken from a narrative in Ayutla Mixe described in Romero-Méndez (2008).

(2) ... *ka't nëëj m-në-kä'ts-pat-të-t*
NEG water 2S-water-throw-ascend-PL-IRR
'Don't water-throw (stones). // Don't throw (stones) into the water.'

If many other languages of the world are found to allow the Noun-Incorporation of

Locative NPs, it would decidedly strengthen the claim that Instrumentals and Locatives form a natural class within Oblique NPs (in the same way that Benefactives and Goals do).

(3)

```
                        ┌─────────────────────┴──────────────────────┐
                  Non-Obliques                                   Obliques
                        |                              ┌──────────────┴──────────────┐
                     Agent,                      Instrumental,                      Goal,
                     Theme                       Locative(?),                    Benefactive,
                                                 Comitative(?)                       (?)
                                                       |                              |
                                               - may not undergo 'Dative     - may undergo 'Dative
                                                  Shift' in English            Shift' in English

                                                          .                            .

                                               - word order, relativization,  - word order, relativization,
                                                  OP are more constrained        OP are more constrained
                                                  in Chichewa applicatives       in Chichewa applicatives

                                                          .                            .

                                                 may noun-incorporate          may not noun-incorporate
```

Further evidence for the partition sketched above may come from the phonological realizations of prepositions lexically co-indexed for specific arguments. As pointed out in Marantz (1993), in Chichewa, Instrumental and Comitative NPs are marked by the same preposition, *ndi*, in prepositional constructions. The same is true for English (ex.: *Elmer ate brunch with Hortense/with a spoon*). Furthermore, in Chichewa, Goal and Benefactive NPs are associated with the preposition *kwa*. Unfortunately, this is not the case in English[16]; nevertheless, if prepositions tend to pattern in this way cross-linguistically, it may be considered additional evidence for this fundamental, binary divide among Obliques.

---

[16]The argument might be made, however, that in some cases, English Goal NPs are indeed marked by P *for*. Ex.: *Mary headed off for London.*

(4) Prepositions by Theta-role in English and Chichewa

	Instrumental	Comitative	Benefactive	Goal
English	*with*	*with*	*for*	*to*
Chichewa	*ndi*	*ndi*	*kwa*	*kwa*

Furthermore, if we interpret Marantz's observation as evidence that Comitative NPs belong to the same natural class as Instrumentals and Locatives, we might expect Comitative applicatives in Chichewa to behave like the latter two in terms of the word order, relativization and OP asymmetries.

(5.a)   *Mavuto anaumbira   mfumu mitsuko*
         Mavuto molded+APPL chief   waterpots

(5.b)   ? *Mavuto anaumbira   mitsuko   mfumu*
         Mavuto molded+APPL waterpots chief
         'Mavuto molded the waterpots with the chief.'

(6.a)   ? *Iyi   ndiyo mfumu imene ndikuganiza kuti Mavuto anaumbira   mitsuko*
         This is   chief   whom think   that Mavuto mold+APPL waterpots
         'This is the chief whom I think Mavuto molded the waterpots with.'

(6.b)   *Iyi   ndi mitsuko   imene ndikuganiza kuti Mavuto anaumbira   mfumu*
         These are waterpots which think   that Mavuto mold+APPL chief
         'These are the waterpots which I think Mavuto molded with the chief.'

(7.a)   *Mavuto ana**wa**$_i$ umbira   mitsuko   (**ana**$_i$)*
         Mavuto OP+mold+APPL waterpots children
         'Mavuto molded the waterpots with them (the children).'

(7.b)   ? *Mavuto ana**i**$_i$ umbira   ana   (**mitsuko**$_i$)*
         Mavuto OP+mold+APPL children (waterpots)
         'Mavuto molded them (the waterpots) with the children.'

Because the applicative suffix *-er/-ir* is so productive, and it happens to cover the entire set of Oblique arguments in Chichewa, *a priori* the sentences in (5-7) are ambiguous and may induce Benefactive, Comitative and possibly other interpretations (compare with 2-3, 4-5 and 11-12 in Section II). Crucially, however, Baker attested that in their Benefactive interpretation, sentences

(5.b), (6.a) and (7.b) are ungrammatical. The prediction would then be that, given a Comitative interpretation, all of the sentences in (5-7) ought to be grammatical. If this turns out to be true, it would be direct evidence that Comitative applicatives pattern like Instrumentals in Chichewa.

Though the evidence presented so far is scant and speculative, this proposed divide within Oblique arguments is an exciting avenue for further research. It is predicted that Instrumental, Locative and Comitative NPs will tend to pattern together, as will Goal and Benefactive NPs. It is also predicted that additional types of Obliques will 'fall into' one of these two groups. If these predictions are confirmed cross-linguistically, and additional syntactic features tends to pattern along these lines, it is an indication that the dichotomy within Obliques proposed here is on the right track.

2. Semi-productivity and the lexicon – limitations on 'Dative Shift'

As pointed out by Jackendoff (1990), there are exceptions to 'Dative Shift' in English. Some verbs, such as *donate*, cannot undergo Dative Shift. Others, such as *spare*, must do so. There are even more types of exceptions to the canonical Dative Shift in English, as per Jackendoff. However, scattered exceptions should not be construed as a serious challenge to a systematic, 'rule-based' account of a given linguistic phenomenon.

After all, it is now relatively uncontroversial among linguists that the English plural (for example) is derived by a systematic rule. Some exceptions to this rule nevertheless exist (*goose*∼*geese*, *child*∼*children*, etc.), but the overwhelming majority of nouns conform to the systematic rule. What's more, as famously demonstrated by Berko (1958) in her 'Wug' test, the rule is productive – it will apply to novel nouns.

In the same way, I would argue that Dative Shift is a systematic pattern. Even though exceptions exist (Jackendoff's asymmetries, Locative applicatives in Chichewa[17], and doubtless others), for the most part it is a productive process – in languages that have this syntactic feature in the first place, of course. Additionally, just like with English plurals and the Wug test, Marantz

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[17] As in (4) in Section I, Locatives are unusual in that they retain their preposition in the applicative construction. The result is isomorphic to Larson (1988)'s 'Heavy NP Shift'/'Light Predicate Raising'.

(1984) demonstrated that Dative Shift will apply productively to novel ditransitive verbs with a Goal argument.

(8.a) *Elmer shinned the ball to me during soccer practice.*

(8.b) *Elmer shinned me the ball during soccer practice.*

Further research may want to address the exact theoretical nature these exceptions. We may want to invoke individual lexical exceptions, or rethink the organization of the lexicon more fundamentally, as in Distributed Morphology (Halle and Marantz 1993). We may want to appeal to lexical and/or semantic subclasses, as Green (1974), Gropen et al (1989) have done to explain the semi-productivity of *bake*-type verbs. We might even want to appeal to the realm of pragmatics – for example, perhaps *donate* cannot appear in the Double Object construction because it inherently emphasizes the motion of the Theme to the Goal. The actual formalization of these exceptions is an important avenue of research further research but it goes beyond the scope of this thesis.

V. Conclusion

In Section III, an analysis was presented whereby the derivation of 'Double Object' constructions from prepositional ditransitive ones in English is isomorphic to the derivation of 'Applicative' constructions from prepositional ditransitives ones in Chichewa. The mechanics of the derivation were formalized with the introduction of new 'tools' such as the Oblique Phrase, and a process dubbed Reanalysis (originally conceived in Larson 1988). An efficient approach to morphosyntax was assumed whereby a single Theta-marking element can be realized in different guises with corresponding linguistic consequences – a kind of morphosyntactic allomorphy.

As set out in Section II, the analysis was able to cover most of the attested asymmetries in Chichewa ditransitives from Baker (1988) and Marantz (1993). It can also successfully account for Barss and Lasnik (1986)'s C-command asymmetries. Finally, the analysis developed in Section III and the special status attributed to Instrumental NPs led to the hypothesis that Oblique arguments may be divided into two neat natural classes, for which preliminary evidence was presented in Section IV.1.

The ultimate goal in conducting this research was to constrain the kinds of syntactic operations that apply in English and Chichewa, in the hope that such an analysis can be extended to other languages that exhibit similar 'Double Object' phenomena. If any of the ideas put forth here turn out to be consistently compatible with other, typologically-different languages, we might tentatively claim to have made headway in modeling how human beings construct argument structure in the mind.

VI. Bibliography

Alsina, Alex and Sam A. Mchombo. 1990. "The Syntax of Applicatives in Chichewa: Problems for the Theta Theoretic Asymmetry". *Natural Language and Linguistic Theory.* Vol 8 : 493 - 506.

Baker, Mark. 1988. "Theta Theory and the Syntax of Applicatives in Chichewa". *Natural Language and Linguistic Theory.* Vol 6 : 353-389.

Baker, Mark. 1997. "Thematic Roles and Syntactic Structure". *Handbook of Generative Syntax.* Dordrecht: Kluwer, p.97-123.

Barss, Andrew and Howard Lasnik. 1986. "A Note on Anaphora and Double Objects". *Linguistic Inquiry.* Vol 17 : 347-354.

Berko, Jean. 1958. "The Child's Learning of English Morphology". *Word.* Vol 14 : 150-177.

Bresnan, Joan and Sam A. Mchombo. 1987. "Topic, Pronoun and Agreement in Chichewa". *Language.* Vol 63 : 741-782.

Chomsky, Noam. 1993. *Lectures on Government and Binding: the Pisa lectures.* Berlin: Mouton de Gruyter. 7th Ed.

Cinque, Guglielmo. 2006. *Restructuring and Functional Heads.* Oxford: Oxford University Press.

Green, Georgia. 1974. *Semantics and syntactic regularity.* Bloomington: Indiana University Press.

Gropen, Jess; Steven Pinker; Michelle Hollander; Richard Goldberg and Ronald Wilson. 1989. "The Learnability and Acquisition of the Dative Alternation in English". *Language.* Vol 65: 203-257.

Halle, Morris and Alec Marantz. 1993. "Distributed Morphology and the Pieces of Inflection". In Kenneth Hale and S. Jay Keyser, eds., *The View From Building 20.* Cambridge: MIT Press.

Harley, Heidi. 2002. "Possession and the double object construction". *Yearbook of Linguistic Variation.* Vol.2 : 29-68.

Jackendoff, Ray. 1990. "On Larson's Analysis of the Double Object Construction". *Linguistic Inquiry.* Vol 21 : 427-456.

Kayne, Richard. 1994. "The antisymmetry of syntax". Cambridge: MIT Press.

Koopman, Hilda and Dominique Sportiche. 1991. "The position of subjects". *Lingua.* Vol 85 : 211-256.

Larson, Richard. 1988. "On the Double Object Construction". *Linguistic Inquiry.* Vol. 19 : 335-391.

Marantz, Alec. 1984. *On the Nature of Grammatical Relations.* Cambridge: MIT Press.

Marantz, Alec. 1993. "Implications of Asymmetries in Double Object Constructions". In S. Mchombo, ed., *Theoretical Aspects of the Bantu Grammar.* Stanford: CLSI, p. 113-150.

Radford, Andrew. 2004. *English Syntax: An Introduction.* Cambridge: Cambridge University Press.

Romero-Méndez, Rodrigo. 2009. *A Reference Grammar of Ayutla Mixe (Tukyo'm ayuujk)*. PhD dissertation. Buffalo: State University of New York, Buffalo.

Stowell, Timothy. 1981. *Origins of phrase structure*. Phd dissertation. Toronto: University of Toronto Press.